Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

November 9, 2011

Mr. Kenneth Bardo - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Long-Term Monitoring Program
3rd Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the Long-Term Monitoring Program 3rd Quarter 2011 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL. (The initial report of the related Supplemental Groundwater Monitoring Program is being submitted separately.)

If you have any questions or comments regarding this report, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

Long-Term Monitoring Program
3rd Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

USEPA

Stephanie Linebaugh
USEPA Region 5 - SR6J, 77 West Jackson Boulevard, Chicago, IL 60604

Booz Allen Hamilton

Dan Briller
Booz Allen Hamilton, 8283 Greensboro Drive, McLean, VA 22102

Solutia

Brett Shank 500 Monsanto Avenue, Sauget, IL 62206-1198

3RD QUARTER 2011
DATA REPORT

LONG-TERM MONITORING PROGRAM

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

November 2011

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project: 21562682.00001

List of Figures

List of Tables

List of Appendices

1.0 INTRODUCTION

This report presents the results of the 3rd Quarter 2011 (3Q11) sampling event performed at the Solutia Inc. (Solutia) W.G. Krummrich (WGK) Facility located in Sauget, Illinois (Site). This sampling event was conducted in accordance with the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009). The Site location is presented in **Figure 1**.

The LTMP was designed to evaluate the effectiveness of monitored natural attenuation (MNA), including: 1) a clear and meaningful trend of decreasing contaminant mass; 2) data that indirectly demonstrate the types and rates of natural attenuation processes active at the site; and 3) data that directly demonstrate the occurrence of biodegradation processes at the site.

Groundwater Sampling Location and Frequency - As specified in the Revised LTMP Work Plan, groundwater samples will be collected for eight quarters from five monitoring wells downgradient of the Former Chlorobenzene Process Area (CPA-MW-1D through CPA-MW-5D) and five monitoring wells downgradient of the Former Benzene Storage Area (BSA-MW-1S and BSA-MW-2D through BSA-MW-5D) to assess attenuation processes in the American Bottoms aquifer, as impacted groundwater from these source areas migrates toward and discharges to the Mississippi River.

Monitoring wells BSA-MW-1S, 2D, 3D, 4D and 5D are located within the limiting flow lines downgradient of the Former Benzene Storage Area. Monitoring wells CPA-MW-1D, 2D, 3D, 4D and 5D are located within the limiting flow lines downgradient of the Former Chlorobenzene Process Area. Source areas and monitoring well locations are presented in **Figure 2**.

Quarterly sampling under the Long-Term Monitoring Program commenced 3Q08 and a total of thirteen quarters have been completed as of 3Q11.

Groundwater Sampling Parameters - During the 3Q11 groundwater sampling event, groundwater samples were analyzed for benzene, chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene using USEPA Method 8260B to demonstrate a trend of decreasing contaminant mass and/or concentrations over time. In accordance with USEPA comments regarding the Long-Term Monitoring Plan, the following constituents were added to the groundwater monitoring parameter list on a semi-annual basis (1st and 3rd Quarters):

- 4-Chloroaniline: CPA-MW-3D, CPA-MW-4D, and CPA-MW-5D
- 2-Chlorophenol: All wells
- 1, 2, 4-Trichlorobenzene: All wells
- 1,4-Dioxane: BSA-MW-2D, BSA-MW-3D, BSA-MW-4D, and BSA-MW-5D

Samples for analysis of MNA parameters were collected from all ten long-term monitoring program wells. Evaluation of the types of active natural attenuation processes at the site is based on the following key geochemical parameters:

- Electron Donors: Organic Carbon (Total and Dissolved)
- Electron Acceptors: Iron (Total and Dissolved)
  Manganese (Total and Dissolved)
  Nitrate
  Sulfate
- Biodegradation Byproducts: Carbon Dioxide
  Chloride
  Methane
- Biodegradation Indicators: Alkalinity

Direct demonstration of the occurrence of biodegradation processes is completed quarterly utilizing Microbial Insights (www.microbe.com) Bio-Trap® Samplers for Phospholipid Fatty Acid (PLFA) Analysis, along with Stable Isotope Probes (SIPs) for benzene or chlorobenzene detection in select wells.

Surface Water and Sediment Sampling – Surface water and sediment samples are collected during winter low flow conditions and during summer low flow conditions as part of the site long-term monitoring program. This typically coincides with the 1st and 3rd quarter groundwater sampling events. The objective of the surface water and sediment monitoring program is to assess the impact of contaminated groundwater discharging to the Mississippi River north of the Groundwater Migration Control System (GMCS). However, due to high river levels during 3Q11 sampling activities, surface water and sediment samples could not be collected.

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted 3Q11 sampling activities from August 18 through August 26, 2011. Activities were completed in accordance with procedures outlined in the Revised LTMP Work Plan, including the collection of appropriate quality assurance and quality control (QA/QC) samples. The following section summarizes field investigative procedures:

Groundwater Level Measurements – URS personnel used an electronic oil/water interface probe to measure depth to static groundwater levels and if present, the thickness of non-aqueous phase liquid (NAPL), to 0.01 feet. Depth to groundwater measurements were collected on August 11 and 12, 2011 from accessible existing wells (i.e., BSA-, CPA-, GM-, K- , PS-MW- and PMA-series) and piezometers clusters (installed for the Sauget Area 2 RI/FS and WGK CA-750 Environmental Indicator projects) specified in the Revised LTMP Work Plan **(Figure 3**). NAPL was not detected within any of the ten LTMP monitoring wells.

Well gauging information for the 3Q11 event is presented in **Table 1**. As the middle and deep hydrogeologic units are the primary migration pathway for constituents present in groundwater at the WGK Facility, a groundwater potentiometric surface map based on water level data from

wells screened in the Middle Hydrogeologic Unit (MHU) and Deep Hydrogeologic Unit (DHU) is presented as **Figure 3**.

Groundwater Sampling – Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 300 to 500 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-through cell volumes:

Parameter	Stabilization Guidelines
Dissolved Oxygen (DO)	+/- 10% or +/-0.2 mg/L, whichever is greatest
Oxidation-Reduction Potential (ORP)	+/- 20 mV
pH	+/- 0.2 units
Specific Conductivity	+/- 3%

Sampling commenced upon completion of purging. Prior to sample collection, the flow-through cell was bypassed to allow for collection of uncompromised groundwater. Samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved. Sample containers were filled based on laboratory analysis to be performed, in the following order:

- Volatile Organic Compounds (VOCs)
- Gas Sensitive Parameters (e.g., methane, carbon dioxide)
- Semivolatile Organic Compounds (SVOCs)
- General Chemistry (i.e., alkalinity, chloride, total and dissolved iron, total and dissolved manganese, nitrate, sulfate, and total and dissolved organic carbon)
- Field Parameters (i.e., dissolved oxygen, ferrous iron, and oxidation-reduction potential).

Samples collected for ferrous iron, dissolved iron and dissolved manganese analysis were filtered in the field using in-line 0.2 micron disposable filters, represented by a notation of “F (0.2)” in the sample nomenclature.

Quality assurance/quality control (QA/QC) samples consisting of analytical duplicates (AD) and equipment blanks (EB) were collected at a rate of 10% and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. In addition, trip blanks accompanied each shipment containing samples for VOC analysis.

Each investigative or QC sample was labeled immediately following collection. Each sample identification number consisted of the following nomenclature "AAA-MW#-MMYY-QAC" where:

- "**AAA**" denotes "Chlorobenzene Process Area (CPA)" or "Benzene Storage Area (BSA)"and "**MW-#**" denotes "Monitoring Well Number":
- **MMYY –** Month and year of sampling quarter, e.g.: Third quarter (August) 2011, 0811
- **"QAC"** denotes QA/QC sample
  - **AD –** analytical duplicate
  - **EB –** equipment blank
  - **MS** or **MSD –** Matrix Spike or Matrix Spike Duplicate

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4^{o}C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, preservative used (if applicable), analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment, coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of an overnight delivery service. Field sampling data sheets are included in **Appendix A**, while copies of COCs are included in **Appendix B**.

Field personnel and equipment were decontaminated according to procedures specified in the Revised LTMP Work Plan to ensure the health and safety of those present, maintain sample integrity, and minimize movement of contamination between the work area and off-site locations. Equipment used on-site was decontaminated prior to beginning work, between sampling locations and/or uses, and prior to demobilizing from the site. Non-disposable purging and sampling equipment was decontaminated between each sample acquisition by washing with an Alconox® or equivalent detergent wash, a potable water rinse, and a distilled water rinse. Personnel and small equipment decontamination was performed at the sample locations. Disposable sampling equipment, such as gloves were collected and bagged on a daily basis and managed in accordance with Solutia procedures. Purge water was containerized and handled per Solutia procedures.

Biodegradation Evaluation Sampling - Bio-Trap® samplers and SIPs provided by Microbial Insights, Inc. (Rockford, TN), were utilized in the LTMP to provide information regarding biodegradation potential of the Shallow Hydrogeologic Unit (SHU), the MHU and the DHU. Bio-Trap® samplers are passive sampling tools which, over time, collect microbes across a membrane that serves as the sampling matrix. SIPs are similar passive sampling tools that are analyzed to measure the degradation of a specific contaminant (i.e., benzene and chlorobenzene).

On July 19, 2011, URS field personnel deployed Bio-Trap® samplers in each of the ten LTMP wells for PLFA analysis. A benzene SIP and a chlorobenzene SIP were placed in monitoring wells BSA-MW-2D and CPA-MW-3D, respectively. Bio-Trap® samplers and SIPs were tied to nylon line attached to the well cap and lowered to the middle of the well screen.

On September 11, 2011, the Bio-Trap® samplers and SIPs were retrieved from the wells, sealed in Ziploc® bags, labeled with the proper well identification and placed in an iced sample cooler with a signed COC. Sealed sample coolers were sent to Microbial Insights, Inc. for analysis.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for VOCs, SVOCs and MNA parameters, using the following methodologies:

- VOCs, via USEPA SW-846 Method 8260B
- SVOCs, via USEPA SW-846 Method 8270C
- MNA parameters: alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), dissolved gases (RSK 175), nitrate (353.2), sulfate (375.4), and total and dissolved organic carbon (415.1).

Dichlorobenzenes were quantitated using Method 8260B because of potential volatilization losses associated with Method 8270C. Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness, as described in the Revised Long Term Monitoring Work Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as **Appendix C**. The laboratory report, along with data review and validation reports are included in **Appendix D.**

A total of 14 groundwater samples (ten investigative samples, one field duplicate, one MS/MSD pair and one equipment blank) were prepared and analyzed by TestAmerica Savannah for combinations of VOCs, SVOCs, dissolved gases, metals, and general chemistry. In addition, three trip blanks were included in the coolers that contained samples for VOC analysis and were analyzed for VOCs. The results for the various analyses were submitted as sample delivery group (SDG) KPS065.

The samples contained in SDG KPS065 are listed below:

KPS065	
BSA-MW-1S-0811	BSA-MW-3D-0811-EB
CPA-MW-2D-0811	BSA-MW-4D-0811
CPAMW-2D-0811-AD	CPA-MW-4D-0811
CPA-MW-1D-0811	BSA-MW-5D-0811
BSA-MW-2D-0811	TB-1
CPA-MW-5D-0811	TB-2
BSA-MW-3D-0811	TB-3

Evaluation of the groundwater analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008), USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004), and the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009).

Based on the above mentioned criteria, groundwater results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, laboratory control sample (LCS), surrogate and field duplicate data were achieved for this SDG to meet the project objectives. Completeness which is defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect (**J/UJ**) data was 100 percent.

5.0 OBSERVATIONS

Groundwater analytical detections and MNA results for the 3Q11 LTMP sampling event are presented in **Tables 2** and **3,** respectively. Benzene, chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,4-dioxane, 4-chloroaniline, 2-chlorophenol and 1,2,4-trichlorobenzene were reported in samples collected from the LTMP wells during this sampling event. Each of these constituents is discussed below:

Benzene – Benzene was detected in samples collected from seven of the ten wells, at concentrations ranging from 28 µg/L (BSA-MW-4D) to 520,000 µg/L (BSA-MW-1S).

Downgradient of the Former Benzene Storage Area, benzene was detected in the DHU at an estimated concentration of 220,000 µg/L (BSA-MW-2D) and 52 µg/L (BSA-MW-3D). Near the river north of the Sauget Area 2 Groundwater Migration Control System (SA2 GMCS), benzene was detected in the DHU at concentrations of 28 µg/L (BSA-MW-4D).

Benzene was detected at the Former Chlorobenzene Process Area at an estimated concentration of 6,700 µg/L (CPA-MW-1D). Downgradient of the Former Chlorobenzene Storage Area, benzene was detected in the DHU at a concentration of 40 µg/L (CPA-MW-3D)

and an estimated 50 µg/L (CPA-MW-4D). Benzene was not detected in the DHU near the river north of SA2 GMCS at monitoring well CPA-MW-5D.

Chlorobenzenes (Total) – Total chlorobenzenes (e.g., sum of chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4, dichlorobenzene) were detected in eight of the ten wells sampled in 3Q11, at concentrations ranging from 390 µg/L (CPA-MW-4D) to 64,300 µg/L (CPA-MW-1D).

Downgradient of the Former Chlorobenzene Storage Area, total chlorobenzenes were detected in the DHU at concentrations of 13,700/13,300 µg/L at the North Tank Farm (CPA-MW-2D and duplicate), along with concentrations of 460 µg/L (CPA-MW-3D) and 390 µg/L (CPA-MW-4D). Total chlorobenzenes were detected in the DHU near the river north of SA2 GMCS at a concentration of 1,200 µg/L (CPA-MW-5D).

Downgradient of the Former Benzene Storage Area, total chlorobenzenes were detected at a concentration of 2,066 µg/L (BSA-MW-3D). North of the SA2 GMCS, near the river, total chlorobenzenes were detected in the DHU at concentrations of 2,666 µg/L (BSA-MW-4D) and 590 µg/L (BSA-MW-5D).

Figure 4 displays benzene and total chlorobenzenes results from the 3Q11 sampling event.

1,4-Dioxane – Groundwater samples were collected from four monitoring wells downgradient of the Former Benzene and Chlorobenzene Storage Area to analyze for 1,4-dioxane (BSA-MW-2D, BSA-MW-3D, BSA-MW-4D, and BSA-MW-5D). 1,4-Dioxane was detected in monitoring wells BSA-MW-2D and BSA-MW-4D at concentrations of 36 µg/L and 32 µg/L, respectively.

4-Chloroaniline – Groundwater samples for 4-chloroaniline analysis were collected from monitoring wells CPA-MW-3D, CPA-MW-4D and CPA-MW-5D. 4-chloroaniline was detected in monitoring well CPA-MW-4D (140 µg/L).

2-Chlorophenol – Of the ten samples available for analysis during 3Q11, 2-chlorophenol was detected in four of the LTMP wells at concentrations ranging from 11 µg/L (CPA-MW-5D) to 22 µg/L (CPA-MW-2D and CPA-MW-2D-AD); both located along the limiting flow lines. 2-Chlorophenol was also detected in monitoring wells BSA-MW-3D and BSA-MW-4D at concentrations of 12 µg/L and 17 µg/L, respectively.

1,2,4-Trichlorobenzene – Samples from the ten LTMP wells were analyzed for 1,2,4-Trichlorobenzene. Of the wells sampled, only the sample from monitoring well CPA-MW-1D indicated a detection, with a concentration of 910 µg/L.

Monitored Natural Attenuation – The MNA results for this quarter are presented in **Table 3**. PLFA and SIP laboratory results are included in **Appendix E**.

6.0 REFERENCES

Solutia Inc, 2009. Revised Long Term Monitoring Program Work Plan, Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois, May 2009.

USEPA, 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

USEPA, 2008. Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review

Figures

FALLING SPRINGS ROAD

STERLING STEEL

SITE H

SITE L

SITE M

SITE N

SITE I

DEAD CREEK

SITE G

CONTAINMENT CELL

CERRO COPPER

QUERRY AVENUE

ROUTE 3

W. G. KRUMMRICH FACILITY

AFTON CHEMICAL

MONSANTO AVENUE

BIG RIVER ZINC

ROUTE 3

MIDWEST RUBBER

CENTER ETHANOL COMPANY, LLC

LOT F

PHILLIPS PETROLEUM

SITE O

SITE P

UNION ELECTRIC

PCHEM POTW

AMERICAN BOTTOMS POTW

CLAYTON CHEMICAL

SITE S

VEOLIA INCINERATION

KINDER MORGAN

SITE R

SITE Q

GROUNDWATER PUMPING WELLS

BARRIER WALL

MISSISSIPPI RIVER

LEGEND

- W.G. KRUMMRICH FACILITY
- SAUGET AREA #1
- SAUGET AREA #2

Ø 1000

SCALE FEET

LONG-TERM MONITORING PROGRAM
3RD QUARTER 2011 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

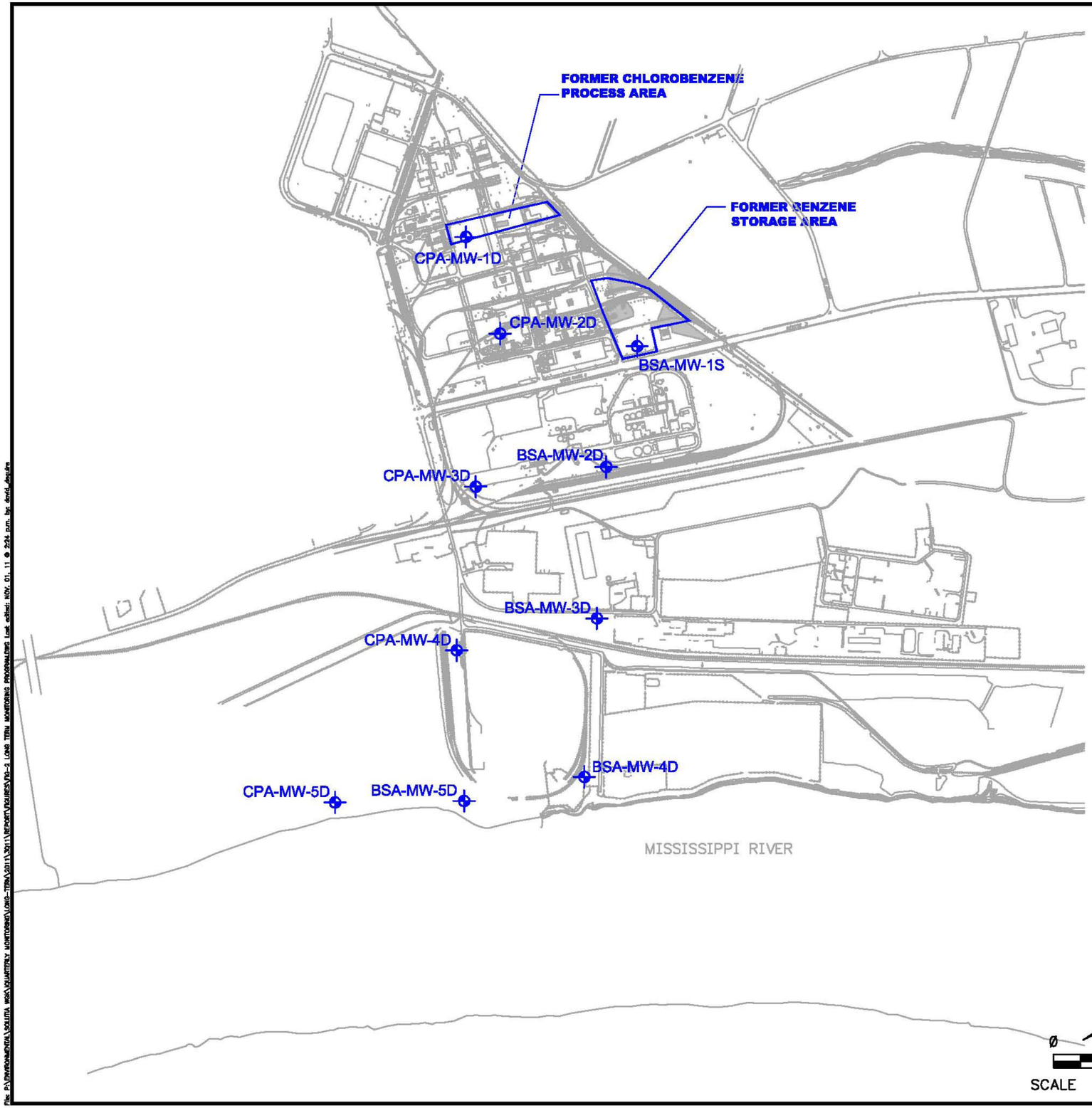
PROJECT NO. 21562682

URS

DRN. BY:chs October 2011
DSGN. BY:dp
CHKD. BY:

Site Location Map

FIG. NO. 1



LEGEND

⊕ LONG-TERM MONITORING WELL LOCATION

NOTES:

1. REFER TO TABLE 1 FOR MONITORING WELL CONSTRUCTION INFORMATION.

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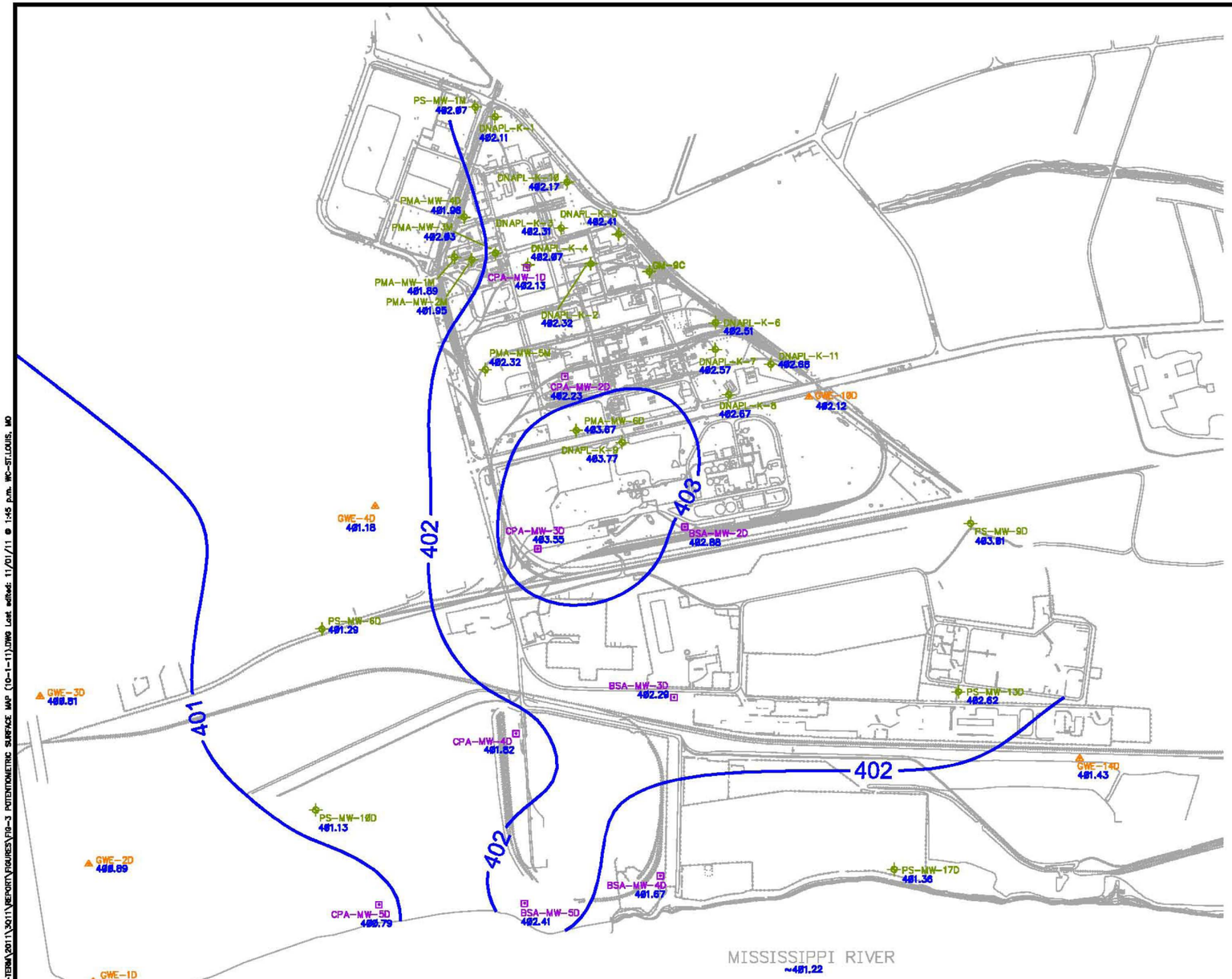
SCALE FEET

LONG-TERM MONITORING PROGRAM 3RD QUARTER 2011 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562682
URS	
DRN. BY:chs October 2011 DSGN. BY:dp CHKD. BY:	Long-Term Monitoring Program Well Locations — FIG. NO. 2

File: P:\ENVIRONMENTAL\SAUGET_WGK\QUARTERLY MONITORING\LONG-TERM\2011\3Q11\REPORT\FIGURES\FIG-2 LONG TERM MONITORING PROGRAM.mxd Last edited: NOV. 01, 11 @ 2:24 p.m. by doris.deutsch



LEGEND

- LONG-TERM MONITORING WELL USED FOR GROUNDWATER CONTOURING
- OTHER MONITORING WELL USED FOR GROUNDWATER CONTOURING
- PIEZOMETER CLUSTER USED FOR GROUNDWATER CONTOURING
- —402— GROUNDWATER ELEVATION CONTOUR (FT NAVD)

NOTES:

1. GROUNDWATER LEVELS WERE MEASURED AUGUST 11 & 12, 2Ø11.
2. CONTOURS GENERATED PRIMARILY USING SURFER SOFTWARE VERSION 8. SOME INTERPRETATION WAS DONE USING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. THE MISSISSIPPI RIVER STAGE ELEVATION PRESENTED ON THE FIGURE IS AN AVERAGE ELEVATION FOR THE TIME OF THE GAUGING EVENT. THE INFORMATION WAS OBTAINED FROM THE SITE R BUBBLER.
4. LOCATIONS WITH WELLS SCREENED IN BOTH THE MHU AND DHU UTILIZED THE DHU WELL FOR DEVELOPMENT OF THE POTENTIOMETRIC SURFACE MAP.

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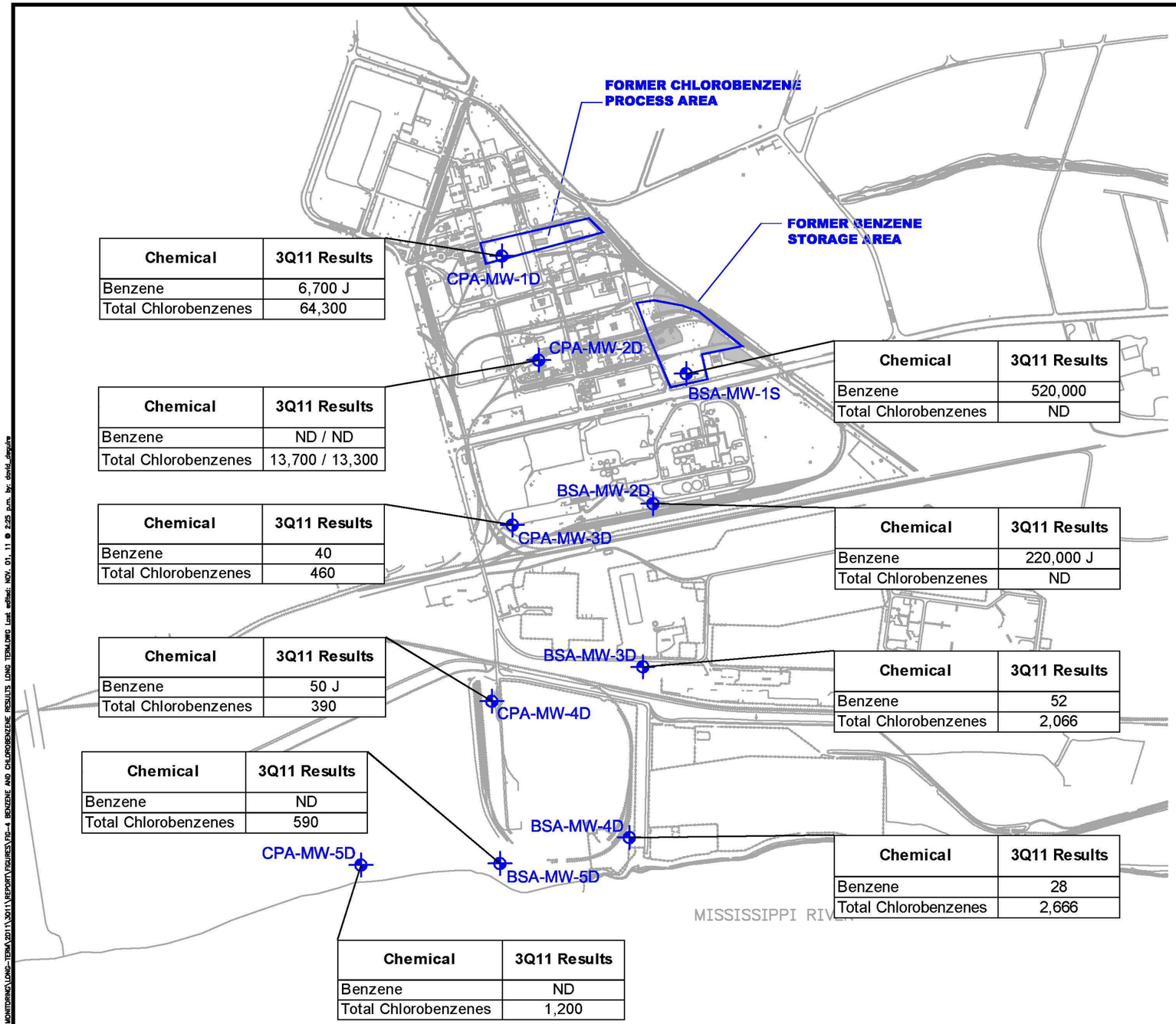
SCALE FEET

LONG-TERM MONITORING PROGRAM 3RD QUARTER 2Ø11 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562682
URS	
DRN. BY:chs November 2Ø11 DSGN. BY:dp CHKD. BY:	Potentiometric Surface Map Middle/Deep Hydrogeologic Unit — FIG. NO. 3

File: P:\ENVIRONMENTAL\SOLUTIA WORK\QUARTERLY MONITORING\LONG-TERM\2011\3Q11\REPORT\FIGURES\Fig-3 POTENTIOMETRIC SURFACE MAP (10-1-11).DWG Last edited: 11/01/11 @ 1:45 p.m. MO-STLOUIS, MO



Chemical	3Q11 Results
Benzene	6,700 J
Total Chlorobenzenes	64,300

Chemical	3Q11 Results
Benzene	ND / ND
Total Chlorobenzenes	13,700 / 13,300

Chemical	3Q11 Results
Benzene	40
Total Chlorobenzenes	460

Chemical	3Q11 Results
Benzene	50 J
Total Chlorobenzenes	390

Chemical	3Q11 Results
Benzene	ND
Total Chlorobenzenes	590

Chemical	3Q11 Results
Benzene	ND
Total Chlorobenzenes	1,200

Chemical	3Q11 Results
Benzene	520,000
Total Chlorobenzenes	ND

Chemical	3Q11 Results
Benzene	220,000 J
Total Chlorobenzenes	ND

Chemical	3Q11 Results
Benzene	52
Total Chlorobenzenes	2,066

Chemical	3Q11 Results
Benzene	28
Total Chlorobenzenes	2,666

LEGEND

BSA-MW-1D — LONG–TERM MONITORING WELL LOCATION

NOTES:

1. TOTAL CHLOROBENZENES RESULTS INCLUDE THE SUM OF MONOCHLOROBENZENE, 1,2–DICHLOROBENZENE, 1,3–DICHLOROBENZENE, AND 1,4–DICHLOROBENZENE.
2. RESULTS SHOWN ARE IN ug/L.
3. ND DENOTES ANALYTE OR ANALYTES NOT DETECTED.
4. MULTIPLE SAMPLE RESULTS INDICATE A DUPLICATE SAMPLE.

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SCALE FEET

LONG–TERM MONITORING PROGRAM
3RD QUARTER 2011 DATA REPORT
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PROJECT NO. 21562682

URS

DRN. BY:chs October 2011
DSGN. BY:dp
CHKD. BY:

Benzene and Total Chlorobenzenes Results

FIG. NO. 4

File: P:\ENVIRONMENTAL\SOLUTIA WGK\QUARTERLY MONITORING\LONG-TERM\2011\3011\REPORT\FIGURES\FIG-4 BENZENE AND CHLOROBENZENE RESULTS LONG TERM.DWG Last edited: NOV. 01, 11 @ 2:25 p.m. by: davis_dequire

Tables

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						August 11 - 12, 2011	
	Ground Elevation (feet)*	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)								
BSA-MW-1S	409.49	412.31	19.68	24.68	389.81	384.81	9.72	402.59
Middle Hydrogeologic Unit (MHU 380-350 feet NAVD 88)								
PMA-MW-1M	410.32	410.08	54.54	59.54	355.78	350.78	8.19	401.89
PMA-MW-2M	412.26	411.93	56.87	61.87	355.39	350.39	9.98	401.95
PMA-MW-3M	412.36	412.10	57.07	62.07	355.29	350.29	10.07	402.03
PMA-MW-5M	411.27	410.97	52.17	57.17	359.10	354.10	8.65	402.32
PS-MW-1M	409.37	412.59	37.78	42.78	371.59	366.59	10.52	402.07
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock)								
BSA-MW-2D	412.00	415.13	68.92	73.92	343.08	338.08	12.25	402.88
BSA-MW-3D	412.91	415.74	107.02	112.02	305.89	300.89	13.45	402.29
BSA-MW-4D	425.00	424.69	118.54	123.54	306.46	301.46	23.02	401.67
BSA-MW-5D	420.80	420.49	115.85	120.85	304.95	299.95	18.08	402.41
CPA-MW-1D	408.62	408.32	66.12	71.12	342.50	337.50	6.19	402.13
CPA-MW-2D	408.51	408.20	99.96	104.96	308.55	303.55	5.97	402.23
CPA-MW-3D	410.87	410.67	108.20	113.20	302.67	297.67	7.12	403.55
CPA-MW-4D	421.57	421.20	116.44	121.44	305.13	300.13	19.38	401.82
CPA-MW-5D	411.03	413.15	107.63	112.63	303.40	298.40	12.36	400.79
DNAPL-K-1	413.07	415.56	108.20	123.20	304.87	289.87	13.45	402.11
DNAPL-K-2	407.94	407.72	97.63	112.63	310.31	295.31	5.40	402.32
DNAPL-K-3	412.13	411.91	104.80	119.80	307.33	292.33	9.60	402.31
DNAPL-K-4	409.48	409.15	102.55	117.55	306.93	291.93	7.08	402.07
DNAPL-K-5	412.27	411.91	102.15	117.15	310.12	295.12	9.50	402.41
DNAPL-K-6	410.43	410.09	102.47	117.47	307.96	292.96	7.58	402.51
DNAPL-K-7	408.32	407.72	100.40	115.40	307.92	292.92	5.15	402.57
DNAPL-K-8	408.56	411.38	102.65	117.65	305.91	290.91	8.71	402.67

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						August 11 - 12, 2011	
	Ground Elevation (feet)*	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Water Elevation* (feet)
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock) (continued)								
DNAPL-K-9	406.45	405.97	97.42	112.42	309.03	294.03	2.20	403.77
DNAPL-K-10	413.50	413.25	105.43	120.43	308.07	293.07	11.08	402.17
DNAPL-K-11	412.20	411.78	105.46	120.46	306.74	291.74	9.10	402.68
GM-9C	409.54	411.21	88.00	108.00	321.54	301.54	16.50	394.71
GWE-1D	412.80	415.60	117.00	127.00	295.80	285.80	15.45	400.15
GWE-2D	417.45	417.14	127.00	137.00	290.45	280.45	16.25	400.89
GWE-3D	415.03	417.66	104.60	114.60	313.06	303.06	16.85	400.81
GWE-4D	406.05	405.74	74.00	80.00	332.05	326.05	4.56	401.18
GWE-10D	410.15	412.87	102.50	112.50	307.65	297.65	10.75	402.12
GWE-14D	420.47	422.90	90.00	96.00	330.47	324.47	21.47	401.43
PMA-MW-4D	411.22	410.88	68.84	73.84	342.38	337.38	8.92	401.96
PMA-MW-6D	407.63	407.32	96.49	101.49	311.14	306.14	3.65	403.67
PS-MW-6D	404.11	406.63	99.80	104.80	304.31	299.31	5.34	401.29
PS-MW-9D	403.92	403.52	100.40	105.40	303.52	298.52	0.51	403.01
PS-MW-10D	409.63	412.18	101.23	106.23	308.40	303.40	11.05	401.13
PS-MW-13D	405.80	405.53	106.08	111.08	299.72	294.72	2.91	402.62
PSMW-17D	420.22	423.26	121.25	126.25	298.97	293.97	21.90	401.36

* - Elevation based upon North American Vertical Datum (NAVD) 88 datum
bgs - below ground surface
btoc - Below top of casing

Table 2
Groundwater Analytical Results

		VOC (µg/L)					SVOC (µg/L)			
Sample ID	**Sample Date**	**Benzene**	**Chlorobenzene**	**1,2-Dichlorobenzene**	**1,3-Dichlorobenzene**	**1,4-Dichlorobenzene**	**4-Chloroaniline**	**2-Chlorophenol**	**1,4-Dioxane**	**1,2,4-Trichlorobenzene**
BENZENE STORAGE AREA										
BSA-MW-1S-0811	8/15/2011	**520,000**	<5,000	<5,000	<5,000	<5,000	NA	<10	NA	<10
BSA-MW-2D-0811	8/16/2011	**220,000 J**	<2,000	<2,000	<2,000	<2,000	NA	<9.5	**36**	<9.5
BSA-MW-3D-0811	8/16/2011	**52**	**1,500**	**24**	**22**	**520**	NA	**12**	<9.6	<9.6
BSA-MW-4D-0811	8/17/2011	**28**	**2,600**	<20	**32**	**34**	NA	**17**	**32**	<9.6
BSA-MW-5D-0811	8/17/2011	<10	**590**	<10	<10	<10	NA	<9.5	<9.5	<9.5
CHLOROBENZENE PROCESS AREA										
CPA-MW-1D-0811	8/15/2011	**6,700 J**	**19,000 J**	**26,000 J**	**2,300 * J**	**17,000 J**	NA	<48	NA	**910**
CPA-MW-2D-0811	8/15/2011	<200	**12,000**	<200	<200	**1,700 J**	NA	**22**	NA	<11
CPA-MW-2D-0811-AD	8/15/2011	<200	**12,000**	<200	<200	**1,300 J**	NA	**22**	NA	<9.8
CPA-MW-3D-0811	8/16/2011	**40**	**460**	<5	<5	<5	<19	<9.5	NA	<9.5
CPA-MW-4D-0811	8/17/2011	**50 J**	**390 J**	<2	<2	<2	**140**	<19	NA	<19
CPA-MW-5D-0811	8/16/2011	<20	**1,200**	<20	<20	<20	<19	**11**	NA	<9.5

Notes:
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given.
BOLD indicates concentration greater than reporting limit.
* = LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits.
AD = Analytical Duplicate
J = Estimated value
NA = Sample not analyzed for select analyte in accordance with Revised LTMP Work Plan

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (ug/L)	Ethylene (ug/L)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/L)	Methane (ug/L)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
Benzene Storage Area																		
BSA-MW-1S-0811	8/15/2011	860	39	240	0	<1.1	<1		4.5		0.63		7600	<0.05	<50		6.9	-160
BSA-MW-1S-F(0.2)-0811	8/15/2011							1.79		4.4		0.62				6.6		
BSA-MW-2D-0811	8/16/2011	650	42	110	0.01	11	<1		4.9		0.66		7100	<0.05	<5		6	-191
BSA-MW-2D-F(0.2)-0811	8/16/2011							>3.3		4.8		0.66				6.1		
BSA-MW-3D-0811	8/16/2011	480	27	90	0.07	1.4	1.2		11		0.56		190	<0.05	230		4.8	-139
BSA-MW-3D-F(0.2)-0811	8/16/2011							>3.3		11		0.55				4.9		
BSA-MW-4D-0811	8/17/2011	640	54	150	0.03	3.7	<1		8.5		0.64		150	<0.05	66		6.4	-180
BSA-MW-4D-F(0.2)-0811	8/17/2011							2.94		8.7		0.66				6.1		
BSA-MW-5D-0811	8/17/2011	700	51	250	0.02	10	<1		15		0.55		54	<0.05	380		5	-121
BSA-MW-5D-F(0.2)-0811	8/17/2011							>3.3		12		0.58				5		
Chlorobenzene Process Area																		
CPA-MW-1D-0811	8/15/2011	1000	<5	140	0	36	<1		2.7		0.23		13000	<0.5	15		25	-122
CPA-MW-1D-F(0.2)-0811	8/15/2011							>3.3		1.6		0.13				57		
CPA-MW-2D-0811	8/15/2011	590	41	65	0.05	4.1	<1		5.6		0.37		3600	<0.05	<5		12	-132
CPA-MW-2D-F(0.2)-0811	8/15/2011									5.7		0.38				12		
CPA-MW-3D-0811	8/16/2011	560	31	110	0.04	5.2	<1		10		0.56		1500	<0.05	<5		10	-185
CPA-MW-3D-F(0.2)-0811	8/16/2011									10		0.57				9.9		
CPA-MW-4D-0811	8/17/2011	760	51	300	0	16	<1		11		0.24		8700	<0.05	<5		5.9	-137
CPA-MW-4D-F(0.2)-0811	8/17/2011							>3.3		11		0.24				6.3		
CPA-MW-5D-0811	8/16/2011	380	96	310	0.36	<1.1	<1		82		2.4		10	<0.05	1500		3.9	-109
CPA-MW-5D-F(0.2)-0811	8/16/2011							>3.3		84		2.5				4		

Notes:
DO and ORP were measured in the field using YSI 6920 equipped with a flow-thru cell. Values presented represent final measurements before sampling
Ferrous Iron readings were measured in the field using a colorimeter after the groundwater passed through a 0.2 µm filter
F(0.2) = Sample was filtered utilizing a 0.2 µm filter during sample collection
mg/L = milligrams per liter
mV = millivolts
ug/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given
A blank space indicates sample not analyzed for select analyte

Appendix A

Groundwater Purging and Sampling Forms

In-Situ Inc.

Troll 9000 | Low-Flow System
08/15/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	31 [ft]
Pump placement from TOC	25 [ft]

Well Information:

Well Id	BSA-MW-1S
Well diameter	2 [in]
Well total depth	27.31 [ft]
Depth to top of screen	22.49 [ft]
Screen length	60 [in]
Depth to Water	9.99 [ft]

Pumping information:

Final pumping rate	500 [mL/min]
Flowcell volume	768.32 [mL]
Calculated Sample Rate	93 [sec]
Sample rate	120 [sec]
Stabilized drawdown	0.21 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	9:26:03	64.23	7.38	2089.22	116.61	0.15	-158.56
	9:28:06	64.12	7.38	2096.84	542.90	0.15	-159.50
	9:30:10	64.09	7.37	2104.62	887.84	0.14	-158.52
	9:32:15	64.05	7.37	2106.03	5.64	0.01	-159.88
	9:34:20	63.96	7.37	2105.44	7.92	0.00	-160.09
Variance in last 3 readings	9:30:10	-0.03	0.00	7.78	344.95	-0.01	0.99
	9:32:15	-0.04	0.00	1.41	-882.21	-0.12	-1.37
	9:34:20	-0.08	0.00	-0.59	2.28	-0.01	-0.21

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/16/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	80.55 [ft]
Pump placement from TOC	74.55 [ft]

Well Information:

Well Id	BSA-MW-2D
Well diameter	2 [in]
Well total depth	77.02 [ft]
Depth to top of screen	72.05 [ft]
Screen length	60 [in]
Depth to Water	12.75 [ft]

Pumping information:

Final pumping rate	400 [mL/min]
Flowcell volume	1049.1 [mL]
Calculated Sample Rate	158 [sec]
Sample rate	158 [sec]
Stabilized drawdown	0.03 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	8:05:19	65.35	6.93	1483.81	52.41	0.04	-219.96
	8:08:02	65.34	6.92	1484.47	282.67	0.06	-208.71
	8:10:46	65.55	6.92	1492.80	505.35	0.06	-200.37
	8:13:29	65.88	6.91	1475.25	627.94	0.06	-194.68
	8:16:13	65.80	6.90	1485.50	7.38	0.01	-190.88
Variance in last 3 readings	8:10:46	0.21	0.00	8.33	222.68	0.00	8.34
	8:13:29	0.34	-0.01	-17.55	122.60	0.00	5.69
	8:16:13	-0.08	-0.01	10.25	-620.57	-0.05	3.81

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/16/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	118.35 [ft]
Pump placement from TOC	112.35 [ft]

Well Information:

Well Id	BSA-MW-3D
Well diameter	2 [in]
Well total depth	114.8 [ft]
Depth to top of screen	108.85 [ft]
Screen length	60 [in]
Depth to Water	14.4 [ft]

Pumping information:

Final pumping rate	500 [mL/min]
Flowcell volume	1259.85 [mL]
Calculated Sample Rate	152 [sec]
Sample rate	152 [sec]
Stabilized drawdown	

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00
	13:41:35	65.41	7.01	1551.95	5.35	0.25	-138.61
	13:44:12	64.17	7.02	1561.89	2.29	0.14	-138.87
	13:46:49	63.66	7.02	1566.56	1.51	0.09	-138.65
	13:49:27	63.58	7.02	1570.50	3.22	0.07	-138.00
Variance in last 3 readings	13:44:12	-1.24	0.01	9.95	-3.05	-0.11	-0.25
	13:46:49	-0.51	0.00	4.67	-0.78	-0.06	0.22
	13:49:27	-0.08	0.00	3.94	1.70	-0.02	0.65

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/17/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	126.73 [ft]
Pump placement from TOC	120.73 [ft]

Well Information:

Well Id	BSA-MW-4D
Well diameter	2 [in]
Well total depth	123.18 [ft]
Depth to top of screen	118.23 [ft]
Screen length	60 [in]
Depth to Water	23.92 [ft]

Pumping information:

Final pumping rate	400 [mL/min]
Flowcell volume	1306.58 [mL]
Calculated Sample Rate	196 [sec]
Sample rate	196 [sec]
Stabilized drawdown	

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	8:30:22	65.14	7.01	1664.13	2.56	0.41	-176.78
	8:33:45	63.88	6.99	1657.06	5.29	0.15	-181.57
	8:37:08	63.63	6.98	1656.36	15.22	0.10	-182.97
	8:40:32	63.52	6.97	1657.47	4.56	0.03	-180.40
	8:43:55	63.61	6.96	1656.01	13.00	0.03	-179.12
Variance in last 3 readings	8:37:08	-0.25	-0.01	-0.70	9.93	-0.05	-1.41
	8:40:32	-0.11	-0.01	1.11	-10.66	-0.06	2.57
	8:43:55	0.09	-0.01	-1.46	8.44	0.00	1.29

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/17/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	124.04 [ft]
Pump placement from TOC	115 [ft]

Well Information:

Well Id	BSA-MW-5D
Well diameter	2 [in]
Well total depth	120.95 [ft]
Depth to top of screen	115.54 [ft]
Screen length	60 [in]
Depth to Water	19.15 [ft]

Pumping information:

Final pumping rate	400 [mL/min]
Flowcell volume	1291.58 [mL]
Calculated Sample Rate	194 [sec]
Sample rate	194 [sec]
Stabilized drawdown	

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00
	11:52:02	69.84	6.97	2554.41	14.76	0.20	-122.25
	11:55:22	68.45	6.97	2545.24	14.57	0.11	-121.64
	11:58:49	67.54	6.97	2537.63	31.16	0.05	-121.29
	12:02:10	67.10	6.96	2535.38	78.26	0.02	-120.56
Variance in last 3 readings	11:55:22	-1.39	0.00	-9.17	-0.20	-0.09	0.60
	11:58:49	-0.90	-0.01	-7.61	16.59	-0.06	0.35
	12:02:10	-0.44	-0.01	-2.25	47.10	-0.03	0.73

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/15/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	73.32 [ft]
Pump placement from TOC	67.32 [ft]

Well Information:

Well Id	CPA-MW-1D
Well diameter	2 [in]
Well total depth	70.73 [ft]
Depth to top of screen	65.82 [ft]
Screen length	60 [in]
Depth to Water	6.31 [ft]

Pumping information:

Final pumping rate	300 [mL/min]
Flowcell volume	1008.79 [mL]
Calculated Sample Rate	202 [sec]
Sample rate	202 [sec]
Stabilized drawdown	

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	14:17:38	66.78	9.49	2226.34	11.29	0.01	-73.28
	14:21:08	66.56	9.46	2164.30	8.68	-0.01	-86.66
	14:24:36	65.86	9.43	2185.80	11.16	0.00	-102.49
	14:28:06	65.86	9.40	2191.70	7.33	-0.01	-114.42
	14:31:35	65.53	9.36	2187.63	6.23	0.00	-122.07
Variance in last 3 readings	14:24:36	-0.70	-0.04	21.50	2.48	0.00	-15.82
	14:28:06	0.00	-0.03	5.91	-3.84	-0.01	-11.93
	14:31:35	-0.32	-0.03	-4.08	-1.10	0.01	-7.65

Notes:

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	108.15 [ft]
Pump placement from TOC	102.15 [ft]

Well Information:

Well Id	CPA-MW-2D
Well diameter	2 [in]
Well total depth	104.65 [ft]
Depth to top of screen	99.65 [ft]
Screen length	60 [in]
Depth to Water	6.21 [ft]

Pumping information:

Final pumping rate	400 [mL/min]
Flowcell volume	1202.98 [mL]
Calculated Sample Rate	181 [sec]
Sample rate	181 [sec]
Stabilized drawdown	0.05 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	12:39:57	69.22	7.00	1317.68	20.27	0.11	-137.99
	12:43:04	69.03	6.99	1321.33	56.43	0.09	-136.10
	12:46:13	68.79	6.99	1287.78	11.96	0.06	-133.32
	12:49:20	68.94	6.98	1279.81	15.39	0.05	-131.82
	12:52:27	68.89	6.98	1275.57	37.48	0.05	-131.99
Variance in last 3 readings	12:46:13	-0.24	0.00	-33.55	-44.46	-0.03	2.78
	12:49:20	0.15	0.00	-7.97	3.43	0.00	1.50
	12:52:27	-0.05	0.00	-4.24	22.09	0.00	-0.17

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/16/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	116.5 [ft]
Pump placement from TOC	110.5 [ft]

Well Information:

Well Id	CPA-MW-3D
Well diameter	2 [in]
Well total depth	112.84 [ft]
Depth to top of screen	108 [ft]
Screen length	60 [in]
Depth to Water	8.65 [ft]

Pumping information:

Final pumping rate	400 [mL/min]
Flowcell volume	1249.54 [mL]
Calculated Sample Rate	188 [sec]
Sample rate	188 [sec]
Stabilized drawdown	

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00
	9:34:28	67.22	7.02	1405.81	28.17	0.12	-205.06
	9:37:42	66.03	7.01	1414.15	29.25	0.07	-192.26
	9:40:57	65.74	7.00	1422.18	32.00	0.05	-187.08
	9:44:13	65.71	6.99	1427.33	42.65	0.04	-185.11
Variance in last 3 readings	9:37:42	-1.18	0.00	8.34	1.08	-0.05	12.79
	9:40:57	-0.29	-0.01	8.03	2.75	-0.02	5.18
	9:44:13	-0.03	-0.01	5.14	10.65	-0.01	1.97

Notes:

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	124.57 [ft]
Pump placement from TOC	118.57 [ft]

Well Information:

Well Id	CPA-MW-4D
Well diameter	2 [in]
Well total depth	121 [ft]
Depth to top of screen	116.07 [ft]
Screen length	60 [in]
Depth to Water	20.15 [ft]

Pumping information:

Final pumping rate	400 [mL/min]
Flowcell volume	1294.53 [mL]
Calculated Sample Rate	195 [sec]
Sample rate	195 [sec]
Stabilized drawdown	

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00
	9:49:47	66.87	6.99	2219.81	62.33	0.21	-135.10
Last 5 Readings	9:53:08	65.92	7.00	2267.60	115.39	0.07	-136.08
	9:56:30	65.39	6.99	2255.43	311.14	0.02	-136.12
	9:59:52	65.30	6.99	2250.52	655.89	0.00	-136.54
	9:53:08	-0.95	0.01	47.79	53.06	-0.14	-0.98
Variance in last 3 readings	9:56:30	-0.53	0.00	-12.17	195.75	-0.05	-0.04
	9:59:52	-0.09	0.00	-4.91	344.75	-0.03	-0.42

Notes:

In-Situ Inc.

Troll 9000 | Low-Flow System
08/16/11 | ISI Low-Flow Log

Project Information:

Operator Name	N MCNURLEN
Company Name	URS
Project Name	SOLUTIA
Site Name	3Q11 GW

Pump Information:

Pump Model/Type	SS MONSOON
Tubing Type	LDPE
Tubing Diameter	0.19 [in]
Tubing Length	118.25 [ft]
Pump placement from TOC	112.25 [ft]

Well Information:

Well Id	CPA-MW-5D
Well diameter	2 [in]
Well total depth	114.67 [ft]
Depth to top of screen	109.75 [ft]
Screen length	60 [in]
Depth to Water	14.4 [ft]

Pumping information:

Final pumping rate	500 [mL/min]
Flowcell volume	1259.3 [mL]
Calculated Sample Rate	152 [sec]
Sample rate	152 [sec]
Stabilized drawdown	0.05 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-20 +/-3 %	+/-1 +/-10 %	+/-0.2 +/-10 %	+/-20
Last 5 Readings	11:53:10	61.21	6.53	3743.74	20.18	0.67	-117.27
	11:55:47	61.29	6.52	3730.22	17.56	0.46	-114.14
	11:58:24	61.15	6.51	3738.51	16.42	0.38	-111.19
	12:01:01	61.35	6.49	3723.19	22.52	0.36	-109.00
	12:03:39	61.14	6.49	3734.82	33.15	0.24	-107.29
Variance in last 3 readings	11:58:24	-0.14	-0.02	8.29	-1.13	-0.08	2.96
	12:01:01	0.19	-0.01	-15.32	6.09	-0.02	2.19
	12:03:39	-0.20	-0.01	11.63	10.64	-0.12	1.71

Notes:

Appendix B

Chains-of-Custody

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/15/11	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier:	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 21562682.00001
St. Louis, MO 63110	Calendar (C) or Work Days (W) C			SDG No.
(314) 429-0100 Phone	TAT if different from Below			
(314) 429-0462 FAX	☒ 2 weeks			
Project Name: 3Q11 LTM GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
BSA-MW-1S-0811	8/15/11	1040	G	Water	14		3	2	1	1	1	3	2	1			*SVOCs per semi-annual list
BSA-MW-1S-F(0.2)-0811	8/15/11	1040	G	W	2	X									1	1	
CPA-MW-2D-0811	8/15/11	1355	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-2D-F(0.2)-0811	8/15/11	1355	G	W	2	X									1	1	
CPA-MW-2D-0811-AD	8/15/11	1355	G	W	5		3	2									
CPA-MW-1D-0811	8/15/11	1535	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-1D-F(0.2)-0811	8/15/11	1535	G	W	2	X									1	1	
TB-1	8/15/11	0000	—	W	2		2										
							2	1	4	1	1	1	3,1	2	4	2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: Level 4 Data Package

TEMP 0.8°C, 0.4°C

680-71407

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	URS	8/15/11		TA	8/15/11 1745
Relinquished by:	Company: TA	Date/Time: 8/15/11 1805	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: TAS	Date/Time: 08/16/11 09:25

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/16/11	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier:	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 21562682.00001
St. Louis, MO 63110	Calendar (C) or Work Days (W) C			SDG No.
(314) 429-0100 Phone	TAT if different from Below			
(314) 429-0462 FAX	[X] 2 weeks			
Project Name: 3Q11 LTM GW Sampling	[ ] 1 week			
Site: Solutia WG Krummrich Facility	[ ] 2 days			
PO# 21562682	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
BSA-MW-2D-0811	8/16/11	0920	G	Water	14		3	2	1	1	1	3	2	1			*SVOCs per semi-annual list
BSA-MW-2D-F(0.2)0811	8/16/11	0920	G	W	2	X									1	1	
CPA-MW-3D-0811	8/16/11	1050	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-3D-F(0.2)-0811	8/16/11	1050	G	W	2	X									1	1	
CPA-MW-5D-0811	8/16/11	1305	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-5D-F(0.2)-0811	8/16/11	1305	G	W	2	X									1	1	
CPA-MW-5D-0811-MS	8/16/11	1305	G	W	5		3	2									
CPA-MW-5D-0811-MSD	8/16/11	1305	G	W	5		3	2									
BSA-MW-3D-0811	8/16/11	1455	G	W	14		3	2	1	1	1	3	2	1			
BSA-MW-3D-F(0.2)-0811	8/16/11	1455	G	W	2	X									1	1	
BSA-MW-3D-0811-EB	8/16/11	1605	G	W	5		3	2									
TB-2	8/16/11	0000	—	W	2		2										
							2	1	4	1	1	1	3,1	2	4	2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant Poison B [ ] Unknown [ ]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [■] Disposal By Lab [ ] Archive For _____ Months

Special Instructions/QC Requirements & Comments: Level 4 Data Package

TEMP 3.0°C, 0.9°C, 1.0°C

680-71445

Relinquished by: [signature]	Company: URS	Date/Time: 8/16/11	Received by: [signature]	Company: TA	Date/Time: 8/16/11 1705
Relinquished by: [signature]	Company: TA	Date/Time: 8/16/11 1730	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: Frances Swafford	Company: TAS	Date/Time: 08/17/11 09:19

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date:	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier:	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	**Analysis Turnaround Time**			Job No. 21562682.00001
St. Louis, MO 63110	Calendar (C) or Work Days (W) C			SDG No.
(314) 429-0100 Phone	TAT if different from Below ____			
(314) 429-0462 FAX	☒ 2 weeks			
Project Name: 3Q11 LTM GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
PO# 21562682	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
BSA-MW-40-0811	8/17/11	0950	G	Water	14		3	2	1	1	1	3	2	1			*SVOCs per semi-annual list
BSA-MW-40-F(0.2)-0811	8/17/11	0950	G	W	2	X									1	1	
CPA-MW-40-0811	8/17/11	1105	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-40-F(0.2)-0811	8/17/11	1105	G	W	2	X									1	1	
BSA-MW-50-0811	8/17/11	1310	G	W	14		3	2	1	1	1	3	2	1			
BSA-MW-50-F(0.2)-0811	8/17/11	1310	G	W	2	X	3	2	1	1	1	3	2	1	1	1	
TB-3	8/17/11	0000	—	W	2		2										
							2	1	4	1	1	1	3,1	2	4	2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements & Comments: **Level 4 Data Package**

2.0/3.0°C
680-71493

	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	URS	8/17/11 1620		TA	8/17/11 1630
Relinquished by:	TA	8/17/11 1805	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: TA SAV	Date/Time: 8/18/11 0937

Appendix C

Quality Assurance Report

QUALITY ASSURANCE REPORT

Solutia Inc.
W.G. Krummrich Facility
Sauget, Illinois

Long-Term Monitoring Program
3rd Quarter 2011 Data Report

Prepared for

Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

November 2011

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562682.00002

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples and surface water/sediment samples collected in August of 2011 at the Solutia W.G. Krummrich plant and Mississippi River as part of the 3rd Quarter 2011 Long-Term Monitoring Program. The samples were collected by URS Corporation personnel and analyzed by TestAmerica Laboratories located in Savannah, Georgia using USEPA methods, Standard methods and USEPA SW-846 methodologies. Groundwater samples were tested for volatile organic compounds (VOCs), semivolatile compounds (SVOCs), metals, dissolved gasses, and general chemistry.

One hundred percent of the data were subjected to a data quality review (Level III validation); ten percent of these data were subjected to a full data validation (Level IV validation). Please see **Appendix D** for groundwater validation reports (Full Validation of VOC Data – SDG KPS065, Full Validation of SVOC Data – SDG KPS065, Full Validation of Metals Data – SDG KPS065, and Full Validation of Wet Chemistry Data – SDG KPS065). The Level III and IV validations were performed in order to confirm that the analytical data provided by TestAmerica were acceptable in quality for their intended use.

A total of 13 groundwater samples (nine investigative samples, one field duplicate pair, one MS/MSD pair, and one equipment blank) were analyzed by Test America. In addition, three trip blank sets were included in the coolers that contained groundwater samples for VOC analysis and were analyzed for VOCs by USEPA SW-846 Method 8260B. These samples were analyzed as one Sample Delivery Groups (SDG) KPS065 utilizing the following USEPA SW-846 Methods:

- Method 8260B for VOCs (Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene and 1,4-Dichlorobenzene)
- Method 8270C for SVOCs (1,2,4-Trichlorobenzene, 1,4-Dioxane, 2-Chlorophenol, and 4-Chloroaniline)
- Method 6010B for total and dissolved iron and manganese

Samples were also analyzed for MNA parameters by the following methods:

- Method RSK-175 for Dissolved Gasses (Ethane, Ethylene, and Methane)
- USEPA Method 310.1 for Alkalinity and Free Carbon Dioxide
- USEPA Method 325.2 for Chloride
- USEPA Method 353.2 for Nitrogen, Nitrate
- USEPA Method 375.4 for Sulfate

- USEPA Method 415.1 for Total and Dissolved Organic Carbon

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, 2008, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004 and the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009).

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Qualifiers assigned by the data reviewer have been applied to the laboratory report. The qualifiers indicate data that did not meet acceptance criteria and corrective actions were not successful or not performed. The various qualifiers are explained in **Tables 1** and **2** below:

TABLE 1 Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Analyte was not detected at or above the reporting limit.
*	LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits.
E	Result exceeded the calibration range, secondary dilution required.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Spike recovery exceeds upper or lower control limits.
F	MS, MSD or RPD exceeds upper or lower control limits.
P	The difference between the results of the two GC columns is greater than 40%
H	Sample was prepped or analyzed beyond the specified holding time.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

TABLE 2 URS Data Qualifiers

	Definition
U	The analyte was analyzed for but was not detected.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds and field duplicate results) were achieved for this data set, except where noted in this report. In addition, analytical completeness, defined as the percentage of analytical results that are judged to be valid, including estimated detect/non-detect (**J/UJ**) data was 100 percent, which meets the completeness goal of 95 percent.

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, field equipment blanks and trip blank samples
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) sample recoveries and relative percent difference (RPD) values
- Field duplicate results
- Results reported from dilutions
- Internal standard responses

Inorganics/General chemistry

- Receipt condition and sample holding times
- Laboratory method blank and field equipment blank samples

- LCS recoveries
- MS/MSD sample recoveries and matrix duplicate RPD values
- Field duplicate and laboratory duplicate results
- Results reported from dilutions

The following sections present the results of the data review.

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction and analysis dates involved comparing the chain-of-custody and the laboratory data summary forms for accuracy, consistency, and holding time compliance.

The cooler receipt form indicated that four of seven coolers were received by the laboratory at 0.4°C, 0.8°C, 0.9°C and 1.0°C which are outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required. One out of three VOA vials for sample BSA-MW-1S-0811 was received broken. The remaining unbroken vials contained sufficient sample to complete all requested analysis. The cooler receipt form indicated three out of three VOA vials for samples CPA-MW-1D-0811, BSA-MW-2D-0811, and CPA-MW-4D-0811 were received by the laboratory with headspace. For samples such as these, having significant concentrations (as opposed to numerous non-detects), headspace is typically not a major issue. Samples CPA-MW-1D-0811, BSA-MW-2D-0811, and CPA-MW-4D-0811 were qualified using professional judgment to indicate the presence of headspace.

Sample ID	Parameter	Analyte	Qualifiers	Comments
CPA-MW-1D-0811	VOCs	Benzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	Chlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,2-Dichlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,3-Dichlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,4-Dichlorobenzene	**J**	Professional Judgment
BSA-MW-2D-0811	VOCs	Benzene	**J**	Professional Judgment
BSA-MW-2D-0811	VOCs	Chlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,2-Dichlorobenzene	**UJ**	Professional Judgment

Sample ID	Parameter	Analyte	Qualifiers	Comments
BSA-MW-2D-0811	VOCs	1,3-Dichlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,4-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	Benzene	**J**	Professional Judgment
CPA-MW-4D-0811	VOCs	Chlorobenzene	**J**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,2-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,3-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,4-Dichlorobenzene	**UJ**	Professional Judgment

Headspace was also reported in two of three VOA vials for sample CPA-MW-3D-0811 and one of three VOA vials for sample CPA-MW-5D-0811. The remaining vials without headspace contained sufficient sample to complete all requested analyses; therefore no qualification of data was required. Sample BSA-MW-5D-F(0.2)-0811 was received at a pH >2 for dissolved metals and dissolved organic carbon; pH was adjusted properly at the laboratory and therefore, no qualification of data was required. Total organic carbon samples were received at a pH >2; pH was adjusted properly at the laboratory and therefore, no qualification of data was required. Additionally, although the cooler receipt form indicated insufficient sample volume was received for MS/MSD analysis, samples CPA-MW-5D-0811 and BSA-MW-1S-0811 contained sufficient sample volume to complete all requested analysis; therefore no qualification of data was required.

The laboratory report was revised on September 21, 2011 in order to correct the dilution factor from 200 to 2000 in the volatiles analysis of sample BSA-MW-2D-0811.

3.0 TRIP BLANKS, LABORATORY METHOD BLANK AND EQUIPMENT BLANK SAMPLES

Trip blank samples are used to assess VOC cross contamination of samples during shipment to the laboratory. Trip blanks were submitted with each cooler shipped containing samples for VOC analyses for a total of three trip blank sample sets. Trip blank samples were non-detect.

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. Method blank samples were non-detect.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. Equipment blank samples were non-detect with the exception summarized in the following table.

Blank ID	Parameter	Analyte	Concentration	Units
BSA-MW-3D-0811-EB	VOCs	Benzene	1.5	µg/L

Analytical data reported non-detect or at concentrations greater than (5X) the associated blank concentration did not require qualification. No qualification of data was required.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. Samples analyzed for VOCs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for Superfund Organic Methods Data Review state how data is qualified, if surrogate spike recoveries do not meet acceptance criteria.

Groundwater surrogate recoveries were within evaluation criteria. Surrogates that were associated with quality control samples or were diluted out and not recovered did not require qualification. No qualification of data was required.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Groundwater laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria with the exception summarized in the following table:

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD Criteria
680-212578/4/5	VOCs	1,3-Dichlorobenzene	**131/**128	2	70-130

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound 1,3-dichlorobenzene in sample CPA-MW-1D-0811 was qualified due to headspace; therefore, no further qualification of data was required.

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were required to be collected at a frequency of one per 20 investigative samples in accordance with the work plan. URS Corporation submitted one MS/MSD sample set for 10 investigative samples meeting the work plan frequency requirement.

Groundwater samples spiked and analyzed as MS/MSDs and their respective recoveries are discussed further in data reviews in **Appendix D**. No qualification of data was required.

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One pair of field duplicate samples was collected for the nine investigative groundwater samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). Groundwater field duplicate RPDs were within evaluation criteria with the exception summarized in the following table below:

Sample ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
CPA-MW-2D-0811	CPA-MW-2D-0811-AD	VOCs	1,4-Dichlorobenzene	**27**	**J/J**

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50 percent to +100 percent for VOCs.

The internal standards area responses for VOCs and SVOCs were verified for the data review. VOC and SVOC IS responses met the criteria as described above for all groundwater samples. No qualification of data was required.

9.0 RESULTS REPORTED FROM DILUTIONS

VOC, TOC, DOC, chloride, and sulfate results for groundwater samples were diluted when high levels of target analytes were present. The diluted sample results for these analytes were reported for the associated samples.

Appendix D

Groundwater Analytical Results

(with Data Review/Validation Reports)

3Q 2011 LTM Data Review

Laboratory SDG: KPS065

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/22/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
BSA-MW-1S-0811	BSA-MW-1S-F(0.2)-0811
CPA-MW-2D-0811	CPA-MW-2D-F(0.2)-0811
CPA-MW-2D-0811-AD	CPA-MW-1D-0811
CPA-MW-1D-F(0.2)-0811	TB-1
BSA-MW-2D-0811	BSA-MW-2D-F(0.2)-0811
CPA-MW-3D-0811	CPA-MW-3D-F(0.2)-0811
CPA-MW-5D-0811	CPA-MW-5D-F(0.2)-0811
BSA-MW-3D-0811	BSA-MW-3D-F(0.2)-0811
BSA-MW-3D-0811-EB	TB-2
BSA-MW-4D-0811	BSA-MW-4D-F(0.2)-0811
CPA-MW-4D-0811	CPA-MW-4D-F(0.2)-0811
BSA-MW-5D-0811	BSA-MW-5D-F(0.2)-0811`
TB-3	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

The laboratory case narrative indicated benzene was detected in the equipment blank. Additionally, chloride MS/MSD recoveries in sample BSA-MW-1S-0811 were outside evaluation criteria, and 4-chloroaniline MS/MSD recoveries in sample CPA-MW-5D-0811 were outside evaluation criteria. The VOC LCS recovery was outside of evaluation criteria for the analyte 1,3-dichlorobenzene. Several samples were diluted due to high levels of target analytes. The laboratory report was revised on September 21, 2011 in order to correct the dilution factor from 200 to 2000 in the volatiles analysis of sample BSA-MW-2D-0811. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that four out of seven coolers were received by the

laboratory at 0.4°C, 0.8°C, 0.9°C and 1.0°C which is outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required.

One out of three VOA vials for sample BSA-MW-1S-0811 was received broken. The remaining unbroken vials contained sufficient sample to complete all requested analysis. Three out of three VOA vials for samples CPA-MW-1D-0811, BSA-MW-2D-0811, and CPA-MW-4D-0811 were received by the laboratory with headspace. These samples were qualified using professional judgment. Headspace was also reported in two of three VOA vials for sample CPA-MW-3D-0811 and one of three VOA vials for sample CPA-MW-5D-0811. The remaining vials without headspace contained sufficient sample to complete all requested analyses; therefore no qualification of data was required. Sample BSA-MW-5D-F(0.2)-0811 was received at a pH >2 for dissolved metals and dissolved organic carbon; pH was adjusted properly at the laboratory and therefore, no qualification of data was required. Total organic carbon samples were received at a pH >2; pH was adjusted properly at the laboratory and therefore, no qualification of data was required. Additionally, although the cooler receipt form notes insufficient sample volume was received for MS/MSD analysis, samples CPA-MW-5D-0811 and BSA-MW-1S-0811 contained sufficient sample volume to complete requested analysis.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration	Units
BSA-MW-3D-0811-EB	VOCs	Benzene	1.5	ug/L

Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD Criteria
680-212578/4/5	VOCs	1,3-Dichlorobenzene	**131/**128	2	70-130

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound 1,3-dichlorobenzene in sample CPA-MW-1D-0811 was qualified due to headspace; therefore, no further qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, sample CPA-MW-5D-0811 was spiked and analyzed for VOCs and SVOCs. Sample BSA-MW-1S-0811 was spiked and analyzed for total and dissolved metals, chloride, nitrate, sulfate and total organic carbon.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
CPA-MW-5D-0811	SVOCs	4-Chloroaniline	**20/24**	15	70-130/30
BSA-MW-1S-0811	Chloride	Chloride	**77/74**	0	85-115/30

USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria for 4-Chloroaniline; therefore, no qualification of data was required. Chloride MS/MSD recoveries in sample BSA-MW-1S-0811 could not be evaluated because the sample concentrations were greater than four times (4X) the matrix spike concentration. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

Yes, sample CPA-MW-5D-0811 was duplicated and analyzed for alkalinity and free carbon dioxide. Sample CPA-MW-2D-0811 was duplicated and analyzed for chloride. Sample BSA-MW-1S-0811 was duplicated and analyzed for sulfate. Sample BSA-MW-2D-F(0.2)-0811 was duplicated and analyzed for dissolved organic carbon.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Sample ID	Field Duplicate ID
CPA-MW-2D-0811	CPA-MW-2D-0811-AD

Were field duplicates within evaluation criteria?

No

Sample ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
CPA-MW-2D-0811	CPA-MW-2D-0811-AD	VOCs	1,4-Dichlorobenzene	**27**	**J/J**

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the laboratory case narrative indicated that three out of three VOA vials for samples CPA-MW-1D-0811, BSA-MW-2D-0811, and CPA-MW-4D-0811 were received by the laboratory with headspace. These samples were qualified using professional judgment. 1,3-Dichlorobenzene in sample CPA-MW-1D-0811 was previously qualified due to high LCS recovery and therefore requires no further qualification.

Sample ID	Parameter	Analyte	Qualifiers	Comments
CPA-MW-1D-0811	VOCs	Benzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	Chlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,2-Dichlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,3-Dichlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,4-Dichlorobenzene	**J**	Professional Judgment
BSA-MW-2D-0811	VOCs	Benzene	**J**	Professional Judgment
BSA-MW-2D-0811	VOCs	Chlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,2-Dichlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,3-Dichlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,4-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	Benzene	**J**	Professional Judgment
CPA-MW-4D-0811	VOCs	Chlorobenzene	**J**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,2-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,3-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,4-Dichlorobenzene	**UJ**	Professional Judgment

FULL VALIDATION OF VOC DATA - SDG KPS065

This section describes the full validation for five water samples which were prepared by USEPA SW-846 Method 5030B and analyzed for volatile organic compounds (VOCs) by USEPA SW-846 Method 8260B. Samples were analyzed by Test America Laboratory of Savanna, Georgia, and submitted as part of sample delivery group (SDG) KPS065. Samples included as part of this validation are listed below:

Sample Identification	
CPA-MW-1D-0811	BSA-MW-2D-0811
CPA-MW-5D-0811	BSA-MW-3D-0811-EB
CPA-MW-4D-0811	

Criteria were identified in the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009) and USEPA SW-846 Method 8260B. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) where applicable to SW-846 Method 8260B.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards
- Laboratory control sample (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data report was revised on September 21, 2011 in order to correct the dilution factor from 200 to 2000 in the volatiles analysis of sample BSA-MW-2D-0811.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated benzene was detected in the equipment blank. Three out of three VOA vials for samples CPA-MW-1D-0811, BSA-MW-2D-0811, and CPA-MW-4D-

0811 were received by the laboratory with headspace. These samples were qualified using professional judgment. Headspace was also reported in two of three VOA vials for sample CPA-MW-3D-0811 and one of three VOA vials for sample CPA-MW-5D-0811. The remaining vials without headspace contained sufficient sample to complete all requested analyses; therefore no qualification of data was required. The VOC LCS recovery was outside of evaluation criteria for the analyte 1,3-Dichlorobenzene. Several samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chains-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The cooler receipt form indicated that four out of seven coolers were received by the laboratory at 0.4°C, 0.8°C, 0.9°C and 1.0°C which is outside the 4°C ± 2°C criteria, and at a pH <2 and were analyzed within the 14 day holding time criteria. No qualification of data was required due to sample preservation or holding time criteria.

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against criteria established in USEPA SW-846 Method 8260B.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, and no qualification of data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An Initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatile analysis. Samples as part of SDG KPS065 were analyzed using instrument MSO5973. The ICAL for instrument MSO5973 was established on 8/01/2011 prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8260B. An average response factor (RF) was determined for each target analyte, the RFs were reviewed and verified greater than 0.10 for chloromethane, 1,1-dichloroethane and bromoform, 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane and greater than 0.05 for all other target analytes.

Review of the initial calibration summary forms indicated %RSDs were $\leq$ 30% for calibration check compounds (CCCs) [1,1-dichloroethene, toluene, chloroform, ethylbenzene, 1,2-dichloropropane, and vinyl chloride], and $\leq$ 15% for non-CCCs. Percent RSDs were recalculated from the raw data and no errors in calculation were noted; therefore, no qualification of data was required.

1.6 Calibration Verification

Review of the sample chromatograms indicated the calibration verifications (CVs) were performed at the required frequency every 12 hours. Review of continuing calibration summary forms indicated all RFs met the evaluation criteria of greater than 0.10 (chloromethane, 1,1-

dichloroethane and bromoform), 0.30 (chlorobenzene and 1,1,2,2-tetrachloroethane) and greater than 0.05 for all other analytes for each CCAL. In addition, percent differences (%Ds) and percent drift (%Drift) met the evaluation criteria of $\leq$ 20% for CCCs and < 30% for all other target analytes. Recalculations of the RFs and %Ds for two target compounds were completed for each CV, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8260B. All target compounds were reported as non-detect in all method blanks analyzed as part of this SDG. Target analytes for all trip blank samples were reported as non-detect. Analytes detected in the equipment blank are included in the table below.

Blank ID	Parameter	Analyte	Concentration	Units
BSA-MW-3D-0811-EB	VOCs	Benzene	1.5	ug/L

Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

The review of chromatograms indicates all peaks present were accounted or the concentrations reported were below the method detection limit. No further qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. All surrogate recoveries were within the method acceptance criteria

A minimum of 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted and no qualification of data was required.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Sample CPA-MW-5D-0811 was spiked and analyzed for VOCs. All MS/MSD recoveries were within the method acceptance criteria for the validated samples. A minimum of 10% of the MS/MSD recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of data was required based on MS/MSD recoveries.

1.10 Internal Standards and Retention Times

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50% to +100%, and the IS retention times must be within 30 seconds of the IS continuing calibration retention time. IS areas and retention times for the validated samples in this SDG were within evaluation criteria. The summary forms versus the raw data were verified and no transcription errors were noted.

1.11 Laboratory Control Sample (LCS)

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria. LCS recoveries outside of laboratory evaluation criteria are included in the table below.

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD Criteria
680-212578/4/5	VOCs	1,3-Dichlorobenzene	**131/**128	2	70-130

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound 1,3-dichlorobenzene in sample CPA-MW-1D-0811 was qualified due to headspace; therefore, no further qualification of data was required.

A minimum of 10% of the spiking compound recoveries for the LCS's were recalculated using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantitation

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, the spectra of the identified compounds were verified against the library spectra, and the relative retention time was no greater than 0.06 different from the associated CV retention times. A minimum of 10% of the detected target analytes and spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, 10% of the target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Additional Qualifications

Three out of three VOA vials for samples CPA-MW-1D-0811, BSA-MW-2D-0811, and CPA-MW-4D-0811 were received by the laboratory with headspace. Professional judgment was used to qualify these samples.

Sample ID	Parameter	Analyte	Qualifiers	Comments
CPA-MW-1D-0811	VOCs	Benzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	Chlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,2-Dichlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,3-Dichlorobenzene	**J**	Professional Judgment
CPA-MW-1D-0811	VOCs	1,4-Dichlorobenzene	**J**	Professional Judgment
BSA-MW-2D-0811	VOCs	Benzene	**J**	Professional Judgment
BSA-MW-2D-0811	VOCs	Chlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,2-Dichlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,3-Dichlorobenzene	**UJ**	Professional Judgment
BSA-MW-2D-0811	VOCs	1,4-Dichlorobenzene	**UJ**	Professional Judgment

Sample ID	Parameter	Analyte	Qualifiers	Comments
CPA-MW-4D-0811	VOCs	Benzene	**J**	Professional Judgment
CPA-MW-4D-0811	VOCs	Chlorobenzene	**J**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,2-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,3-Dichlorobenzene	**UJ**	Professional Judgment
CPA-MW-4D-0811	VOCs	1,4-Dichlorobenzene	**UJ**	Professional Judgment

1.14 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses be accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG. In addition, completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect (**J/UJ**) data, was 100% for this SDG and should be used for their intended purpose.

FULL VALIDATION OF SVOC DATA – SDG KPS065

This section describes the full validation for four water samples which were prepared by USEPA SW-846 Method 3520C and analyzed for semivolatile organic compounds (SVOCs) by USEPA SW-846 Method 8270C. Samples were analyzed by TestAmerica Laboratory of Savanna, Georgia, and submitted as part of sample delivery group (SDG) KPS065. Samples included as part of this validation are listed below:

Sample Identification	
BSA-MW-1S-0811	BSA-MW-2D-0811
CPA-MW-5D-0811	CPA-MW-4D-0811

Criteria were identified in the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009) and USEPA SW-846 Method 8270C. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Organic Data Review (USEPA 2008) where applicable to SW-846 Method 8270C.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- Instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standard areas
- Laboratory control sample (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.0 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete for SVOCs for this SDG.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated that SVOC MS/MSD recoveries for 4-chloroaniline were outside evaluation criteria in sample CPA-MW-1D-0811.

No problems were indicated in the cooler receipt form for the validated samples.

1.3 Sample Preservation and Holding Times

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The cooler receipt form indicated that four out of seven coolers were received by the laboratory at 0.4°C, 0.8°C, 0.9°C and 1.0°C which is outside the 4°C ± 2°C criteria, and were extracted within 7 days of collection and analyzed within 40 days of extraction. No qualification of data was required due to sample preservation or holding time criteria.

1.4 Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against the laboratory tuning criteria established in Method 8270C.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, therefore; no qualification of the data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An Initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatile analysis. Samples as part of SDG KPS065 were analyzed using instrument MSN5973. The ICAL for instrument MSN5973 was established on 8/16/2011 prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8270C. An average response factor (RF) was determined for each target analyte, and the RFs were reviewed and verified as greater than 0.05 for all target analytes.

Review of the initial calibration summary forms indicated calibration check compounds (CCCs) had percent relative standard deviations (%RSDs) $\leq$ 30%. All other target analytes had %RSDs less than 15%.

Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.6 Calibration Verification

Review of sample chromatograms indicated the calibration verifications (CVs) were performed at the required frequency of every 12 hours. Review of continuing calibration summary forms indicated all RFs met the evaluation criteria of greater than 0.05 for all target analytes. In addition, percent differences (%Ds) met the evaluation criteria of less than or equal to 20% for CCCs and target analytes that were quantitated using linear calibration (response factor).

Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8270C. All target

compounds in the blank samples were reported as non-detect. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per-sample basis. Surrogate recoveries were within the method acceptance criteria for all validated samples.

A minimum of 10% of the surrogate recoveries was recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Sample CPA-MW-5D-0811 was spiked and analyzed for SVOCs. MS/MSD recoveries outside of evaluation criteria for SVOCs are included in the table below.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
CPA-MW-5D-0811	SVOCs	4-Chloroaniline	**20/24**	15	70-130/30

USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria for 4-Chloroaniline; therefore, no qualification of data was required. A minimum of 10% of the MS/MSD recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of data was required based on MS/MSD recoveries.

1.10 Internal Standard Areas and Retention Times

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. Following Method 8270C, the IS areas for the samples and CVs must be within –50% to +100% and retention times must be within 30 seconds of the IS area and retention time of the midpoint of the ICAL.

The IS areas for the CVs and the validated samples in this SDG were within evaluation criteria. No qualifications to the data based on IS areas or retention times were required.

1.11 Laboratory Control Sample (LCS)

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria. No qualifications of data were required based on LCS recoveries.

A minimum of 10% of the spiking compound recoveries for the LCS were recalculated from the raw data and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantitation

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, the spectra of the identified compounds were verified against the library

spectra, and the relative retention time was no greater than 0.06 different from the associated CV retention times. A minimum of 10% of the detected target analytes and spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, 10% of the target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG. In addition, completeness defined to be the percentage of analytical results, which are judged to be valid was 100% for this SDG.

FULL VALIDATION OF METALS DATA – SDG KPS065

This section describes the full data validation for four water samples which were prepared by USEPA SW-846 Methods 3005A and analyzed for total and dissolved iron and manganese by USEPA SW-846 Method 6010B. Samples were analyzed by TestAmerica Laboratory of Savanna, Georgia, and submitted as part of sample delivery group (SDG) KPS065. Samples included as part of this validation are listed below:

Sample Identification	
BSA-MW-1S-0811	BSA-MW-1S-F(0.2)-0811
BSA-MW-5D-0811	BSA-MW-4D-F(0.2)-0811

Criteria were identified in the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009) and USEPA SW-846 Method 6010B. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Inorganic Data Review (USEPA 2004) where applicable to SW-846 Method 6010B.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative /cooler receipt form
- Sample preservation and holding times
- Blank contamination
- Initial calibration
- Calibration verification
- Laboratory control sample (LCS)
- Matrix spike/matrix spike duplicate (MS/MSD)
- Laboratory duplicate sample
- ICP serial dilution
- ICP interference check samples (ICS)
- Sample result verification
- Overall assessment of data

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete for metals for this SDG.

1.2 Laboratory Case Narrative / Cooler Receipt Form

The laboratory case narrative and cooler receipt form did not indicate any problems for the validated samples.

1.3 Sample Preservation and Holding Times

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the sample preparation logs, the analysis run logs, and raw data forms for holding time compliance. The cooler receipt form indicated that four out of seven coolers were received by the laboratory at 0.4°C, 0.8°C, 0.9°C and 1.0°C which are outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required. The validated samples were received at pH<2 and were analyzed within the evaluation criteria of 6 months for metals. No qualification of data was required based on holding time criteria or sample preservation.

1.4 Blank Contamination

The purpose of blank samples was to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Initial calibration, continuing calibration, and preparation blanks were reported non-detect for all metals analyzed. No qualification of data was required based on blank results.

1.5 Initial Calibration

Initial calibration (ICAL) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for metals analyses. An ICAL was analyzed at the beginning of the run sequence. ICAL curves were established using a blank and three standards for analysis of metals by inductively coupled plasma atomic emission (ICP-AE). All initial calibration verification (ICV) recoveries were within evaluation criteria (ICP metals, 90-110%). A minimum of 10% of the ICAL curve and ICV recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of the data was required based on ICV data.

1.6 Calibration Verification

Calibration Verification (CV) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data established by the ICAL. The laboratory analyzed CV samples at a frequency of 10% as specified by the methodologies. CV samples associated with the validated samples had recoveries within the evaluation criteria (ICP metals, 90-110%). A minimum of 10% of the CV sample recoveries were recalculated and compared to the raw data and no calculation or transcription errors were noted.

1.7 Laboratory Control Sample (LCS)

Laboratory control spike (LCS) samples were analyzed to assess the accuracy of the analytical method and to demonstrate laboratory performance. The LCS recoveries for metals were within evaluation criteria (75-125%) for metals. A minimum of 10% of the LCS recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of data was required based on LCS recoveries.

1.8 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples are analyzed to assess accuracy, precision and the effects of matrix interference during the analysis of a particular sample. Sample BSA-MW-1S-0811 was spiked and analyzed for total and dissolved metals. All MS/MSD recoveries were within the method acceptance criteria for the validated samples. A minimum of 10% of the MS/MSD recoveries

were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of data was required based on MS/MSD recoveries.

1.9 Laboratory Duplicate Sample

Laboratory duplicate samples are analyzed to assess the precision of a particular sample. No laboratory duplicates were analyzed for the metals samples chosen for validation.

1.10 ICP Serial Dilution

Serial dilutions were analyzed to assess the potential significant physical or chemical interferences due to sample matrix. Serial dilutions were analyzed on a sample (BSA-MW-1S-0811) in this SDG for metals. Serial dilution percent differences (%Ds) were within evaluation criteria (+/- 10%). No qualification of data was required.

1.11 ICP Interference Check Sample

An Interference Check Sample (ICS) was analyzed to verify the contract laboratory's interelement and background correction factors for analysis of metals by ICP. The laboratory analyzed the ICS at the beginning of the analytical run as specified in USEPA SW-846 Method 6010B. The ICS recoveries for all metals analyzed were within evaluation criteria (80-120%); therefore, no qualification of the ICP data was required. A minimum of 10% of the ICS recoveries were recalculated and compared to the raw data; no transcription and calculation errors were noted.

1.12 Sample Result Verification

The metals results were recalculated to validate that analyte quantitation was derived accurately, and no calculation errors were noted. Data summary forms were reviewed and compared to the raw data package. No transcription errors were noted and the correct reporting limits were used.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Completeness, defined to be the percentage of analytical results that are judged to be valid was 100% for this SDG.

FULL VALIDATION OF GENERAL CHEMISTRY DATA – SDG KPS065

This section describes the full data validation of four water samples which were analyzed for various wet chemistry parameters. The analytical parameters and methodologies are summarized below:

Parameter	Method	Reference
Nitrate/Nitrite	353.2	USEPA Methods for Chemical Analysis of Water and Waste (USEPA, 1983)
Sulfate	375.4	
Total and Dissolved Organic Carbon	415.1	
Chloride	325.2	
Alkalinity	310.1	
Carbon Dioxide	Calc from 310.1	
Dissolved Gasses	RSK-175	RSK-175

Samples were analyzed by TestAmerica Laboratory, of Savannah, Georgia, and submitted as part of sample delivery group (SDG) KPS065. Samples included as a part of this validation are listed below:

Sample Identification	
BSA-MW-1S-0811	BSA-MW-1S-F(0.2)-0811
BSA-MW-5D-0811	BSA-MW-4D-F(0.2)-0811

Criteria were identified in the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009) and evaluation of the analytical data followed procedures outlined in USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004), where applicable to the above mentioned USEPA Methods. The evaluation criteria used during the validation were a combination of those criteria presented in the respective methods and the laboratory criteria based on historical data.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Sample preservation and holding times
- Blank contamination
- Initial calibration
- Calibration verification
- Laboratory control sample (LCS)
- Laboratory duplicate analysis
- Matrix spike/matrix spike duplicate samples (MS/MSD)
- Sample result verification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective method. The data package was complete for general chemistry parameters.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated chloride MS/MSD recoveries in sample BSA-MW-1S-0811 were outside evaluation criteria. Several samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below. The cooler receipt form did not indicate any problems for the validated samples.

1.3 Sample Preservation and Holding Times

Review of the sample collection, extraction and analyses dates involved comparing the chain-of-custody, the sample preparation logs, the analysis run logs, and raw data forms for holding time compliance. The cooler receipt form indicated that four out of seven coolers were received by the laboratory at 0.4°C, 0.8°C, 0.9°C and 1.0°C which is outside the 4°C ± 2°C criteria, and at a pH <2 for sulfate. Total organic carbon samples were received at a pH >2; pH was adjusted properly at the laboratory and therefore, no qualification of data was required. All samples were analyzed within holding time criteria; 28 days for chloride, nitrate/nitrite, sulfate, total organic carbon and 14 days for alkalinity and RSK-175. No qualifications of data were required based on holding times and sample preservation.

1.4 Blank Contamination

The purpose of method blank samples was to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required. A review of the method blank summary forms and the raw data forms indicated all target compounds were reported as non-detect.

1.5 Initial Calibration

Initial calibration verification (ICV) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for the wet chemistry analyses. Alkalinity concentrations are determined by titration; therefore, no calibration curve was generated. The verification of alkalinity analyses was achieved with the analysis of laboratory control samples (LCS). The LCS data is further discussed in the appropriate section below. An initial calibration was established at the beginning of the run sequence for the all other analyses. A minimum of five standards was used to establish the initial calibration curve as required by the analytical methods. Review of the initial calibration data indicated that the r values were greater than 0.995 for all calibration curves; therefore, no qualification of data was required. The ICAL for RSK-175 was established using at least eight concentration standards to establish the external calibration and all r values were greater than or equal to 0.995. No qualification of data was required based on initial calibration. Approximately 10% of the initial calibration and ICV recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted.

1.6 Calibration Verification

Calibration verification (CV) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data established by the initial calibration curve. CV samples were analyzed at the required frequency of every 10 samples and the percent differences (%D) or percent drift (%drift) values were within evaluation criteria for each analytical method. No qualification of data was required based on %drift.

Approximately 10% of the CV sample recoveries were recalculated and compared to the raw data. No calculation or transcription errors were noted.

1.7 Laboratory Control Sample (LCS)

Laboratory control samples (LCS) were established to assess the accuracy of the analytical method and to demonstrate laboratory performance. LCS recoveries were within the evaluation criteria; therefore, no qualification of data was required. A minimum of 10% of LCS recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted.

1.8 Laboratory Duplicate Analysis

Laboratory duplicate samples assess the precision of a particular sample. Laboratory duplicates were analyzed for the alkalinity, free carbon dioxide, chloride, nitrate as N, sulfate, dissolved organic carbon and total organic carbon. All duplicate analyses results were within laboratory control limits. No qualification of data was required.

1.9 Matrix Spike/ Matrix Spike Duplicate Samples (MS/MSD)

MS/MSD samples are analyzed to assess the accuracy, precision and the effects of matrix interference during the analysis of a particular sample. Sample BSA-MW-1S-0811 was spiked and analyzed for chloride, nitrogen, nitrate-nitrite, sulfate and total organic carbon. MS/MSD recoveries which were outside of evaluation criteria are included in the table below.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
BSA-MW-1S-0811	Chloride	Chloride	**77/74**	0	85-115/30

Chloride MS/MSD recoveries in sample BSA-MW-1S-0811 could not be evaluated because the sample concentrations were greater than four times (4X) the matrix spike concentration. No qualification of data was required.

The MS/MSD percent recovery data was recalculated and compared to the raw data. No calculation or transcription errors were noted.

1.10 Sample Result Verification

10% of the validated sample results were recalculated to verify that analyte quantitation was derived accurately, and no calculation errors were noted. Data summary forms were reviewed and compared to the raw data package. No transcription errors were noted and the correct reporting limits were used.

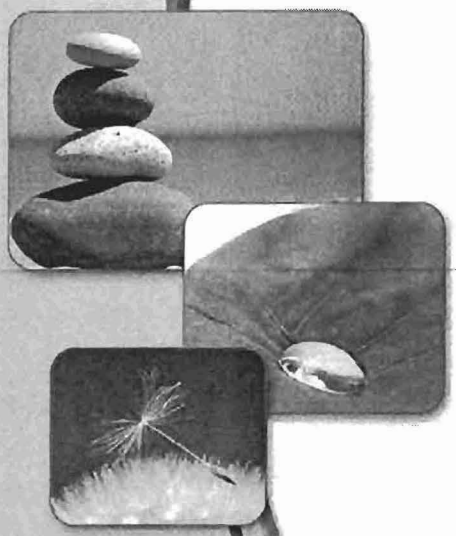
1.11 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses be accepted for their intended use. Completeness, defined to be the percentage of analytical results that are judged to be valid was 100 percent for this SDG.

SDG KPS065

Results of Samples from Monitoring Wells:

BSA-MW-1S
BSA-MW-2D
BSA-MW-3D
BSA-MW-4D
BSA-MW-5D
CPA-MW-1D
CPA-MW-2D
CPA-MW-3D
CPA-MW-4D
CPA-MW-5D



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-71407-1
TestAmerica Sample Delivery Group: KPS065
Client Project/Site: WGK LTM - 3Q11 - AUG 2011
Revision: 1

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Lidya Gulizia

Authorized for release by:
09/21/2011 04:50:26 PM

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

cc: Bob Billman Dave Palmer

SEP 22 2011

Table of Contents

Job ID: 680-71407-1

Laboratory: TestAmerica Savannah

Narrative

Job Narrative
680-71407-1 / SDG KPS065 (Revised 9/21/11)

Receipt
The following sample(s) was received with headspace in the sample vial: BSA-MW-2D-0811 (680-71445-1), CPA-MW-3D-0811 (680-71445-3), CPA-MW-5D-0811 (680-71445-5 MS), CPA-MW-5D-0811 (680-71445-5 MSD). Three of three vials for BSA-MW2D contained headspace; two of three vials for CPA-MW3D and one of three for both -CPA-MW5D MS/MSD

The following sample(s) was received with headspace in the sample vial: CPA-MW-1D-0811 (680-71407-6), CPA-MW-2D-0811 (680-71407-3). Sample CPA-MS2D had 1 of 3 vials and CPA-MW1D had 3 of 3 vials with headspace.

The following sample(s) was received with headspace in 3 of the 3 sample vials: CPA-MW-4D-0811 (680-71493-3).

All other samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 212578 had 1 analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8260B: The following samples were diluted due to the abundance of target analytes: BSA-MW-1S-0811 (680-71407-1), CPA-MW-1D-0811 (680-71407-6), CPA-MW-2D-0811 (680-71407-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The field blank associated with these samples contained a detection above the reporting limit (RL) for the following analyte: Benzene. The sample was reanalyzed with concurring results.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270C: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The MS/MSD associated with batch 212318 had 1 analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270C: The following sample(s) was diluted due to the abundance of target analytes: CPA-MW-1D-0811 (680-71407-6), CPA-MW-4D-0811 (680-71493-3). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC VOA
Method(s) RSK-175: Manual integration was performed on the following sample(s): (LCS 680-212629/8).

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

SEP 22 2011

General Chemistry
Method(s) 325.2, SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 212944 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 415.1: The following sample(s) was diluted due to the nature of the sample matrix: CPA-MW-1D-F(0.2)-0811 (680-71407-7). Elevated reporting limits (RLs) are provided. The The DOC sample result for this sample was reanalyzed at dilutions of 1:10 and 1:25 by the analyst to confirm the DOC result as it exceeded the corresponding TOC result for the associated sample CPA-MW-1D-0811

Job ID: 680-71407-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

(680-71407-6).

No other analytical or quality issues were noted.

Comments

The report was revised on September 21, 2011 in order to correct the dilution factor from 200 to 2000 in the volatiles analysis of sample BSA-MW-2D-0811 (680-71445-1) for which results were reported erroneously at 10X less than the historical data for the sample.

No other additional comments.

SEP 22 2011

Sample Summary

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-71407-1	BSA-MW-1S-0811	Water	08/15/11 10:40	08/16/11 09:25
680-71407-2	BSA-MW-1S-F(0.2)-0811	Water	08/15/11 10:40	08/16/11 09:25
680-71407-3	CPA-MW-2D-0811	Water	08/15/11 13:55	08/16/11 09:25
680-71407-4	CPA-MW-2D-F(0.2)-0811	Water	08/15/11 13:55	08/16/11 09:25
680-71407-5	CPA-MW-2D--0811-AD	Water	08/15/11 13:55	08/16/11 09:25
680-71407-6	CPA-MW-1D-0811	Water	08/15/11 15:35	08/16/11 09:25
680-71407-7	CPA-MW-1D-F(0.2)-0811	Water	08/15/11 15:35	08/16/11 09:25
680-71407-8	TB-1	Water	08/15/11 00:00	08/16/11 09:25
680-71445-1	BSA-MW-2D-0811	Water	08/16/11 09:20	08/17/11 09:19
680-71445-2	BSA-MW-2D-F(0.2)-0811	Water	08/16/11 09:20	08/17/11 09:19
680-71445-3	CPA-MW-3D-0811	Water	08/16/11 10:50	08/17/11 09:19
680-71445-4	CPA-MW-3D-F(0.2)-0811	Water	08/16/11 10:50	08/17/11 09:19
680-71445-5	CPA-MW-5D-0811	Water	08/16/11 13:05	08/17/11 09:19
680-71445-6	CPA-MW-5D-F(0.2)-0811	Water	08/16/11 13:05	08/17/11 09:19
680-71445-7	BSA-MW-3D-0811	Water	08/16/11 14:55	08/17/11 09:19
680-71445-8	BSA-MW-3D-F(0.2)-0811	Water	08/16/11 14:55	08/17/11 09:19
680-71445-9	BSA-MW-3D-0811-EB	Water	08/16/11 16:05	08/17/11 09:19
680-71445-10	TB-2	Water	08/16/11 00:00	08/17/11 09:19
680-71493-1	BSA-MW-4D-0811	Water	08/17/11 09:50	08/18/11 09:37
680-71493-2	BSA-MW-4D-F(0.2)-0811	Water	08/17/11 09:50	08/18/11 09:37
680-71493-3	CPA-MW-4D-0811	Water	08/17/11 11:05	08/18/11 09:37
680-71493-4	CPA-MW-4D-F(0.2)-0811	Water	08/17/11 11:05	08/18/11 09:37
680-71493-5	BSA-MW-5D-0811	Water	08/17/11 13:10	08/18/11 09:37
680-71493-6	BSA-MW-5D-F(0.2)-0811	Water	08/17/11 13:10	08/18/11 09:37
680-71493-7	TB-3	Water	08/17/11 00:00	08/18/11 09:37

SEP 22 2011

Method Summary

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

SEP 22 2011

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F	MS or MSD exceeds the control limits

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

SEP 22 2011

Detection Summary

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-1S-0811 — Lab Sample ID: 680-71407-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	520000		5000		ug/L	5000		8260B	Total/NA
Methane	7600		0.58		ug/L	1		RSK-175	Total/NA
Iron	4.5		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.63		0.010		mg/L	1		6010B	Total Recovera
Chloride	240		5.0		mg/L	5		325.2	Total/NA
Total Organic Carbon	6.9		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	860		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	39		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-1S-F(0.2)-0811 — Lab Sample ID: 680-71407-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	4.4		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.62		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	6.6		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-2D-0811 — Lab Sample ID: 680-71407-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	12000		200		ug/L	200		8260B	Total/NA
1,4-Dichlorobenzene	1700		200		ug/L	200		8260B	Total/NA
2-Chlorophenol	22		11		ug/L	1		8270C	Total/NA
Ethane	4.1		1.1		ug/L	1		RSK-175	Total/NA
Methane	3600		0.58		ug/L	1		RSK-175	Total/NA
Iron	5.6		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.37		0.010		mg/L	1		6010B	Total Recovera
Chloride	65		1.0		mg/L	1		325.2	Total/NA
Total Organic Carbon	12		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	590		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	41		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-2D-F(0.2)-0811 — Lab Sample ID: 680-71407-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	5.7		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.38		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	12		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-2D--0811-AD — Lab Sample ID: 680-71407-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	12000		200		ug/L	200		8260B	Total/NA
1,4-Dichlorobenzene	1300		200		ug/L	200		8260B	Total/NA
2-Chlorophenol	22		9.8		ug/L	1		8270C	Total/NA

Client Sample ID: CPA-MW-1D-0811 — Lab Sample ID: 680-71407-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6700	HH	200		ug/L	200		8260B	Total/NA
Chlorobenzene	19000	HH	200		ug/L	200		8260B	Total/NA
1,2-Dichlorobenzene	26000		200		ug/L	200		8260B	Total/NA

TestAmerica Savannah
SEP 22 2011

Client Sample ID: CPA-MW-1D-0811 (Continued)

Lab Sample ID: 680-71407-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3-Dichlorobenzene	2300	*J	200		ug/L	200		8260B	Total/NA
1,4-Dichlorobenzene	17000	J	200		ug/L	200		8260B	Total/NA
1,2,4-Trichlorobenzene	910		48		ug/L	5		8270C	Total/NA
Ethane	36		1.1		ug/L	1		RSK-175	Total/NA
Methane	13000		0.58		ug/L	1		RSK-175	Total/NA
Iron	2.7		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.23		0.010		mg/L	1		6010B	Total Recovera
Chloride	140		2.0		mg/L	2		325.2	Total/NA
Sulfate	15		5.0		mg/L	1		375.4	Total/NA
Total Organic Carbon	25		10		mg/L	10		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	1000		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-1D-F(0.2)-0811

Lab Sample ID: 680-71407-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	1.6		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.13		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	57		25		mg/L	25		415.1	Dissolved

Client Sample ID: TB-1

Lab Sample ID: 680-71407-8

No Detections

Client Sample ID: BSA-MW-2D-0811

Lab Sample ID: 680-71445-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	220000	J	2000		ug/L	2000		8260B	Total/NA
1,4-Dioxane	36		9.5		ug/L	1		8270C	Total/NA
Ethane	11		1.1		ug/L	1		RSK-175	Total/NA
Methane	7100		0.58		ug/L	1		RSK-175	Total/NA
Iron	4.9		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.66		0.010		mg/L	1		6010B	Total Recovera
Chloride	110		2.0		mg/L	2		325.2	Total/NA
Total Organic Carbon	6.0		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	650		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	42		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-2D-F(0.2)-0811

Lab Sample ID: 680-71445-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	4.8		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.66		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	6.1		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-3D-0811

Lab Sample ID: 680-71445-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	40		5.0		ug/L	5		8260B	Total/NA
Chlorobenzene	460		5.0		ug/L	5		8260B	Total/NA
Ethane	5.2		1.1		ug/L	1		RSK-175	Total/NA
Methane	1500		0.58		ug/L	1		RSK-175	Total/NA

SEP 22 2011

Client Sample ID: CPA-MW-3D-0811 (Continued) — Lab Sample ID: 680-71445-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	10		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.56		0.010		mg/L	1		6010B	Total Recovera
Chloride	110		2.0		mg/L	2		325.2	Total/NA
Total Organic Carbon	10		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	560		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	31		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-3D-F(0.2)-0811 — Lab Sample ID: 680-71445-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	10		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.57		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	9.9		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-5D-0811 — Lab Sample ID: 680-71445-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	1200		20		ug/L	20		8260B	Total/NA
2-Chlorophenol	11		9.5		ug/L	1		8270C	Total/NA
Methane	10		0.58		ug/L	1		RSK-175	Total/NA
Iron	82		0.050		mg/L	1		6010B	Total Recovera
Manganese	2.4		0.010		mg/L	1		6010B	Total Recovera
Chloride	310		5.0		mg/L	5		325.2	Total/NA
Sulfate	1500		250		mg/L	50		375.4	Total/NA
Total Organic Carbon	3.9		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	380		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	96		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-5D-F(0.2)-0811 — Lab Sample ID: 680-71445-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	84		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	2.5		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	4.0		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: BSA-MW-3D-0811 — Lab Sample ID: 680-71445-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	52		10		ug/L	10		8260B	Total/NA
Chlorobenzene	1500		10		ug/L	10		8260B	Total/NA
1,2-Dichlorobenzene	24		10		ug/L	10		8260B	Total/NA
1,3-Dichlorobenzene	22		10		ug/L	10		8260B	Total/NA
1,4-Dichlorobenzene	520		10		ug/L	10		8260B	Total/NA
2-Chlorophenol	12		9.6		ug/L	1		8270C	Total/NA
Ethane	1.4		1.1		ug/L	1		RSK-175	Total/NA
Ethylene	1.2		1.0		ug/L	1		RSK-175	Total/NA
Methane	190		0.58		ug/L	1		RSK-175	Total/NA
Iron	11		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.56		0.010		mg/L	1		6010B	Total Recovera
Chloride	90		1.0		mg/L	1		325.2	Total/NA
Sulfate	230		50		mg/L	10		375.4	Total/NA

Client Sample ID: BSA-MW-3D-0811 (Continued) — Lab Sample ID: 680-71445-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	4.8		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	480		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	27		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-3D-F(0.2)-0811 — Lab Sample ID: 680-71445-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	11		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.55		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	4.9		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: BSA-MW-3D-0811-EB — Lab Sample ID: 680-71445-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.5		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: TB-2 — Lab Sample ID: 680-71445-10

No Detections

Client Sample ID: BSA-MW-4D-0811 — Lab Sample ID: 680-71493-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	28		20		ug/L	20		8260B	Total/NA
Chlorobenzene	2600		20		ug/L	20		8260B	Total/NA
1,3-Dichlorobenzene	32		20		ug/L	20		8260B	Total/NA
1,4-Dichlorobenzene	34		20		ug/L	20		8260B	Total/NA
1,4-Dioxane	32		9.6		ug/L	1		8270C	Total/NA
2-Chlorophenol	17		9.6		ug/L	1		8270C	Total/NA
Ethane	3.7		1.1		ug/L	1		RSK-175	Total/NA
Methane	150		0.58		ug/L	1		RSK-175	Total/NA
Iron	8.5		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.64		0.010		mg/L	1		6010B	Total Recovera
Chloride	150		2.0		mg/L	2		325.2	Total/NA
Sulfate	66		25		mg/L	5		375.4	Total/NA
Total Organic Carbon	6.4		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	640		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	54		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-4D-F(0.2)-0811 — Lab Sample ID: 680-71493-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	8.7		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.66		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	6.1		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-4D-0811 — Lab Sample ID: 680-71493-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	50	J	2.0		ug/L	2		8260B	Total/NA
Chlorobenzene	390	J	2.0		ug/L	2		8260B	Total/NA

TestAmerica Savannah
SEP 22 2011

Client Sample ID: CPA-MW-4D-0811 (Continued) — Lab Sample ID: 680-71493-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4-Chloroaniline	140		38		ug/L	2		8270C	Total/NA
Ethane	16		1.1		ug/L	1		RSK-175	Total/NA
Methane	8700		0.58		ug/L	1		RSK-175	Total/NA
Iron	11		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.24		0.010		mg/L	1		6010B	Total Recovera
Chloride	300		5.0		mg/L	5		325.2	Total/NA
Total Organic Carbon	5.9		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	760		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	51		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-4D-F(0.2)-0811 — Lab Sample ID: 680-71493-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	11		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.24		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	6.3		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: BSA-MW-5D-0811 — Lab Sample ID: 680-71493-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	590		10		ug/L	10		8260B	Total/NA
Ethane	10		1.1		ug/L	1		RSK-175	Total/NA
Methane	54		0.58		ug/L	1		RSK-175	Total/NA
Iron	15		0.050		mg/L	1		6010B	Total Recovera
Manganese	0.55		0.010		mg/L	1		6010B	Total Recovera
Chloride	250		5.0		mg/L	5		325.2	Total/NA
Sulfate	380		100		mg/L	20		375.4	Total/NA
Total Organic Carbon	5.0		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	700		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	51		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-5D-F(0.2)-0811 — Lab Sample ID: 680-71493-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	12		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.58		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	5.0		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: TB-3 — Lab Sample ID: 680-71493-7

No Detections

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-1S-0811
Date Collected: 08/15/11 10:40
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**520000**		5000		ug/L			08/22/11 16:28	5000
Chlorobenzene	5000	U	5000		ug/L			08/22/11 16:28	5000
1,2-Dichlorobenzene	5000	U	5000		ug/L			08/22/11 16:28	5000
1,3-Dichlorobenzene	5000	U *	5000		ug/L			08/22/11 16:28	5000
1,4-Dichlorobenzene	5000	U	5000		ug/L			08/22/11 16:28	5000

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*70 - 130*		*08/22/11 16:28*	*5000*
Dibromofluoromethane	*97*		*70 - 130*		*08/22/11 16:28*	*5000*
Toluene-d8 (Surr)	*98*		*70 - 130*		*08/22/11 16:28*	*5000*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		08/19/11 14:58	08/23/11 16:56	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		08/19/11 14:58	08/23/11 16:56	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*64*		*25 - 130*	*08/19/11 14:58*	*08/23/11 16:56*	*1*
2-Fluorophenol	*66*		*25 - 130*	*08/19/11 14:58*	*08/23/11 16:56*	*1*
2,4,6-Tribromophenol	*83*		*31 - 141*	*08/19/11 14:58*	*08/23/11 16:56*	*1*
Nitrobenzene-d5	*66*		*39 - 130*	*08/19/11 14:58*	*08/23/11 16:56*	*1*
2-Fluorobiphenyl	*62*		*38 - 130*	*08/19/11 14:58*	*08/23/11 16:56*	*1*
Terphenyl-d14	*51*		*10 - 143*	*08/19/11 14:58*	*08/23/11 16:56*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			08/22/11 18:43	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 18:43	1
Methane	**7600**		0.58		ug/L			08/22/11 18:43	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**4.5**		0.050		mg/L		08/23/11 16:14	09/02/11 05:48	1
Manganese	**0.63**		0.010		mg/L		08/23/11 16:14	09/02/11 05:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**240**		5.0		mg/L			08/25/11 15:35	5
Nitrate as N	0.050	U	0.050		mg/L			08/16/11 17:31	1
Sulfate	50	U	50		mg/L			08/25/11 16:50	10
Total Organic Carbon	**6.9**		1.0		mg/L			08/30/11 17:03	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**860**		5.0		mg/L			08/16/11 15:36	1
Carbon Dioxide, Free	**39**		5.0		mg/L			08/16/11 15:36	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-1S-F(0.2)-0811
Date Collected: 08/15/11 10:40
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-2
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	4.4		0.050		mg/L		08/23/11 16:14	09/02/11 06:15	1
Manganese, Dissolved	0.62		0.010		mg/L		08/23/11 16:14	09/02/11 06:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	6.6		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-2D-0811
Date Collected: 08/15/11 13:55
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	200	U	200		ug/L			08/22/11 16:57	200
Chlorobenzene	**12000**		200		ug/L			08/22/11 16:57	200
1,2-Dichlorobenzene	200	U	200		ug/L			08/22/11 16:57	200
1,3-Dichlorobenzene	200	U * J	200		ug/L			08/22/11 16:57	200
1,4-Dichlorobenzene	**1700**		200		ug/L			08/22/11 16:57	200

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*70 - 130*		*08/22/11 16:57*	*200*
Dibromofluoromethane	*97*		*70 - 130*		*08/22/11 16:57*	*200*
Toluene-d8 (Surr)	*98*		*70 - 130*		*08/22/11 16:57*	*200*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	**22**		11		ug/L		08/19/11 14:58	08/23/11 17:22	1
1,2,4-Trichlorobenzene	11	U	11		ug/L		08/19/11 14:58	08/23/11 17:22	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*67*		*25 - 130*	*08/19/11 14:58*	*08/23/11 17:22*	*1*
2-Fluorophenol	*73*		*25 - 130*	*08/19/11 14:58*	*08/23/11 17:22*	*1*
2,4,6-Tribromophenol	*80*		*31 - 141*	*08/19/11 14:58*	*08/23/11 17:22*	*1*
Nitrobenzene-d5	*67*		*39 - 130*	*08/19/11 14:58*	*08/23/11 17:22*	*1*
2-Fluorobiphenyl	*71*		*38 - 130*	*08/19/11 14:58*	*08/23/11 17:22*	*1*
Terphenyl-d14	*32*		*10 - 143*	*08/19/11 14:58*	*08/23/11 17:22*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**4.1**		1.1		ug/L			08/22/11 18:56	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 18:56	1
Methane	**3600**		0.58		ug/L			08/22/11 18:56	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**5.6**		0.050		mg/L		08/23/11 16:14	09/02/11 06:20	1
Manganese	**0.37**		0.010		mg/L		08/23/11 16:14	09/02/11 06:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65**		1.0		mg/L			08/25/11 15:32	1
Nitrate as N	0.050	U	0.050		mg/L			08/16/11 17:34	1
Sulfate	5.0	U	5.0		mg/L			08/25/11 16:05	1
Total Organic Carbon	**12**		1.0		mg/L			08/30/11 17:44	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**590**		5.0		mg/L			08/16/11 15:45	1
Carbon Dioxide, Free	**41**		5.0		mg/L			08/16/11 15:45	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-2D-F(0.2)-0811
Date Collected: 08/15/11 13:55
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-4
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	5.7		0.050		mg/L		08/23/11 16:14	09/02/11 06:25	1
Manganese, Dissolved	0.38		0.010		mg/L		08/23/11 16:14	09/02/11 06:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	12		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-2D--0811-AD
Date Collected: 08/15/11 13:55
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	200	U	200		ug/L			08/23/11 18:30	200
Chlorobenzene	**12000**		200		ug/L			08/23/11 18:30	200
1,2-Dichlorobenzene	200	U	200		ug/L			08/23/11 18:30	200
1,3-Dichlorobenzene	200	U	200		ug/L			08/23/11 18:30	200
1,4-Dichlorobenzene	**1300**	J	200		ug/L			08/23/11 18:30	200

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*70 - 130*		*08/23/11 18:30*	*200*
Dibromofluoromethane	*96*		*70 - 130*		*08/23/11 18:30*	*200*
Toluene-d8 (Surr)	*98*		*70 - 130*		*08/23/11 18:30*	*200*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	**22**		9.8		ug/L		08/19/11 14:58	08/23/11 17:49	1
1,2,4-Trichlorobenzene	9.8	U	9.8		ug/L		08/19/11 14:58	08/23/11 17:49	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*66*		*25 - 130*	*08/19/11 14:58*	*08/23/11 17:49*	*1*
2-Fluorophenol	*72*		*25 - 130*	*08/19/11 14:58*	*08/23/11 17:49*	*1*
2,4,6-Tribromophenol	*82*		*31 - 141*	*08/19/11 14:58*	*08/23/11 17:49*	*1*
Nitrobenzene-d5	*68*		*39 - 130*	*08/19/11 14:58*	*08/23/11 17:49*	*1*
2-Fluorobiphenyl	*70*		*38 - 130*	*08/19/11 14:58*	*08/23/11 17:49*	*1*
Terphenyl-d14	*39*		*10 - 143*	*08/19/11 14:58*	*08/23/11 17:49*	*1*

SEP 22 2011

Client Sample ID: CPA-MW-1D-0811
Date Collected: 08/15/11 15:35
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6700		200		ug/L			08/22/11 17:55	200
Chlorobenzene	19000		200		ug/L			08/22/11 17:55	200
1,2-Dichlorobenzene	26000		200		ug/L			08/22/11 17:55	200
1,3-Dichlorobenzene	2300		200		ug/L			08/22/11 17:55	200
1,4-Dichlorobenzene	17000		200		ug/L			08/22/11 17:55	200

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*70 - 130*		*08/22/11 17:55*	*200*
Dibromofluoromethane	*96*		*70 - 130*		*08/22/11 17:55*	*200*
Toluene-d8 (Surr)	*98*		*70 - 130*		*08/22/11 17:55*	*200*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	48	U	48		ug/L		08/19/11 14:58	08/23/11 18:16	5
1,2,4-Trichlorobenzene	910		48		ug/L		08/19/11 14:58	08/23/11 18:16	5

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*54*		*25 - 130*	*08/19/11 14:58*	*08/23/11 18:16*	*5*
2-Fluorophenol	*66*		*25 - 130*	*08/19/11 14:58*	*08/23/11 18:16*	*5*
2,4,6-Tribromophenol	*67*		*31 - 141*	*08/19/11 14:58*	*08/23/11 18:16*	*5*
Nitrobenzene-d5	*64*		*39 - 130*	*08/19/11 14:58*	*08/23/11 18:16*	*5*
2-Fluorobiphenyl	*64*		*38 - 130*	*08/19/11 14:58*	*08/23/11 18:16*	*5*
Terphenyl-d14	*16*		*10 - 143*	*08/19/11 14:58*	*08/23/11 18:16*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	36		1.1		ug/L			08/22/11 19:09	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 19:09	1
Methane	13000		0.58		ug/L			08/22/11 19:09	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.7		0.050		mg/L		08/23/11 16:14	09/02/11 06:41	1
Manganese	0.23		0.010		mg/L		08/23/11 16:14	09/02/11 06:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		2.0		mg/L			08/25/11 15:38	2
Nitrate as N	0.50	U	0.50		mg/L			08/16/11 17:38	10
Sulfate	15		5.0		mg/L			08/25/11 16:06	1
Total Organic Carbon	25		10		mg/L			08/30/11 17:58	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1000		5.0		mg/L			08/16/11 15:58	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			08/16/11 15:58	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-1D-F(0.2)-0811
Date Collected: 08/15/11 15:35
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-7
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	1.6		0.050		mg/L		08/23/11 16:14	09/02/11 06:46	1
Manganese, Dissolved	0.13		0.010		mg/L		08/23/11 16:14	09/02/11 06:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	57		25		mg/L			08/23/11 08:18	25

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: TB-1
Date Collected: 08/15/11 00:00
Date Received: 08/16/11 09:25

Lab Sample ID: 680-71407-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/22/11 13:50	1
Chlorobenzene	1.0	U	1.0		ug/L			08/22/11 13:50	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 13:50	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 13:50	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 13:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*70 - 130*		*08/22/11 13:50*	*1*
Dibromofluoromethane	*105*		*70 - 130*		*08/22/11 13:50*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*08/22/11 13:50*	*1*

SEP 22 2011

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-2D-0811
Date Collected: 08/16/11 09:20
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**220000**	J	2000		ug/L			08/25/11 17:15	2000
Chlorobenzene	2000	U UJ	2000		ug/L			08/25/11 17:15	2000
1,2-Dichlorobenzene	2000	U UJ	2000		ug/L			08/25/11 17:15	2000
1,3-Dichlorobenzene	2000	U UJ	2000		ug/L			08/25/11 17:15	2000
1,4-Dichlorobenzene	2000	U UJ	2000		ug/L			08/25/11 17:15	2000

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*70 - 130*		*08/25/11 17:15*	*2000*
Dibromofluoromethane	*100*		*70 - 130*		*08/25/11 17:15*	*2000*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/25/11 17:15*	*2000*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.5	U	9.5		ug/L		08/19/11 14:58	08/22/11 15:57	1
1,4-Dioxane	**36**		9.5		ug/L		08/19/11 14:58	08/22/11 15:57	1
2-Chlorophenol	9.5	U	9.5		ug/L		08/19/11 14:58	08/22/11 15:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*66*		*25 - 130*	*08/19/11 14:58*	*08/22/11 15:57*	*1*
2,4,6-Tribromophenol	*90*		*31 - 141*	*08/19/11 14:58*	*08/22/11 15:57*	*1*
2-Fluorobiphenyl	*69*		*38 - 130*	*08/19/11 14:58*	*08/22/11 15:57*	*1*
2-Fluorophenol	*63*		*25 - 130*	*08/19/11 14:58*	*08/22/11 15:57*	*1*
Nitrobenzene-d5	*71*		*39 - 130*	*08/19/11 14:58*	*08/22/11 15:57*	*1*
Terphenyl-d14	*58*		*10 - 143*	*08/19/11 14:58*	*08/22/11 15:57*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**11**		1.1		ug/L			08/22/11 17:52	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 17:52	1
Methane	**7100**		0.58		ug/L			08/22/11 17:52	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**4.9**		0.050		mg/L		08/23/11 16:14	09/02/11 06:51	1
Manganese	**0.66**		0.010		mg/L		08/23/11 16:14	09/02/11 06:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		2.0		mg/L			08/25/11 15:38	2
Nitrate as N	0.050	U	0.050		mg/L			08/17/11 15:04	1
Sulfate	5.0	U	5.0		mg/L			08/25/11 16:06	1
Total Organic Carbon	**6.0**		1.0		mg/L			08/25/11 11:17	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**650**		5.0		mg/L			08/17/11 17:40	1
Carbon Dioxide, Free	**42**		5.0		mg/L			08/17/11 17:40	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-2D-F(0.2)-0811
Date Collected: 08/16/11 09:20
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-2
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	4.8		0.050		mg/L		08/23/11 16:14	09/02/11 06:56	1
Manganese, Dissolved	0.66		0.010		mg/L		08/23/11 16:14	09/02/11 06:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	6.1		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

Client Sample ID: CPA-MW-3D-0811
Date Collected: 08/16/11 10:50
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**40**		5.0		ug/L			08/25/11 17:44	5
Chlorobenzene	**460**		5.0		ug/L			08/25/11 17:44	5
1,2-Dichlorobenzene	5.0	U	5.0		ug/L			08/25/11 17:44	5
1,3-Dichlorobenzene	5.0	U	5.0		ug/L			08/25/11 17:44	5
1,4-Dichlorobenzene	5.0	U	5.0		ug/L			08/25/11 17:44	5

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*70 - 130*		*08/25/11 17:44*	*5*
Dibromofluoromethane	*98*		*70 - 130*		*08/25/11 17:44*	*5*
Toluene-d8 (Surr)	*103*		*70 - 130*		*08/25/11 17:44*	*5*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	19	U	19		ug/L		08/19/11 14:58	08/22/11 16:25	1
2-Chlorophenol	9.5	U	9.5		ug/L		08/19/11 14:58	08/22/11 16:25	1
1,2,4-Trichlorobenzene	9.5	U	9.5		ug/L		08/19/11 14:58	08/22/11 16:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*66*		*25 - 130*	*08/19/11 14:58*	*08/22/11 16:25*	*1*
2-Fluorophenol	*63*		*25 - 130*	*08/19/11 14:58*	*08/22/11 16:25*	*1*
2,4,6-Tribromophenol	*91*		*31 - 141*	*08/19/11 14:58*	*08/22/11 16:25*	*1*
Nitrobenzene-d5	*73*		*39 - 130*	*08/19/11 14:58*	*08/22/11 16:25*	*1*
2-Fluorobiphenyl	*73*		*38 - 130*	*08/19/11 14:58*	*08/22/11 16:25*	*1*
Terphenyl-d14	*67*		*10 - 143*	*08/19/11 14:58*	*08/22/11 16:25*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**5.2**		1.1		ug/L			08/22/11 18:05	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 18:05	1
Methane	**1500**		0.58		ug/L			08/22/11 18:05	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**10**		0.050		mg/L		08/23/11 16:14	09/02/11 07:02	1
Manganese	**0.56**		0.010		mg/L		08/23/11 16:14	09/02/11 07:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		2.0		mg/L			08/25/11 15:38	2
Nitrate as N	0.050	U	0.050		mg/L			08/17/11 15:07	1
Sulfate	5.0	U	5.0		mg/L			08/25/11 16:07	1
Total Organic Carbon	**10**		1.0		mg/L			08/25/11 11:34	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**560**		5.0		mg/L			08/17/11 17:48	1
Carbon Dioxide, Free	**31**		5.0		mg/L			08/17/11 17:48	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-3D-F(0.2)-0811
Date Collected: 08/16/11 10:50
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-4
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	10		0.050		mg/L		08/23/11 16:14	09/02/11 07:07	1
Manganese, Dissolved	0.57		0.010		mg/L		08/23/11 16:14	09/02/11 07:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	9.9		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

Client Sample ID: CPA-MW-5D-0811
Date Collected: 08/16/11 13:05
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	20	U	20		ug/L			08/25/11 18:13	20
Chlorobenzene	**1200**		20		ug/L			08/25/11 18:13	20
1,2-Dichlorobenzene	20	U	20		ug/L			08/25/11 18:13	20
1,3-Dichlorobenzene	20	U	20		ug/L			08/25/11 18:13	20
1,4-Dichlorobenzene	20	U	20		ug/L			08/25/11 18:13	20

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*70 - 130*		*08/25/11 18:13*	*20*
Dibromofluoromethane	*99*		*70 - 130*		*08/25/11 18:13*	*20*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/25/11 18:13*	*20*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	19	U	19		ug/L		08/19/11 14:58	08/22/11 16:53	1
2-Chlorophenol	**11**		9.5		ug/L		08/19/11 14:58	08/22/11 16:53	1
1,2,4-Trichlorobenzene	9.5	U	9.5		ug/L		08/19/11 14:58	08/22/11 16:53	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*61*		*25 - 130*	*08/19/11 14:58*	*08/22/11 16:53*	*1*
2-Fluorophenol	*61*		*25 - 130*	*08/19/11 14:58*	*08/22/11 16:53*	*1*
2,4,6-Tribromophenol	*93*		*31 - 141*	*08/19/11 14:58*	*08/22/11 16:53*	*1*
Nitrobenzene-d5	*78*		*39 - 130*	*08/19/11 14:58*	*08/22/11 16:53*	*1*
2-Fluorobiphenyl	*78*		*38 - 130*	*08/19/11 14:58*	*08/22/11 16:53*	*1*
Terphenyl-d14	*75*		*10 - 143*	*08/19/11 14:58*	*08/22/11 16:53*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			08/22/11 18:17	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 18:17	1
Methane	**10**		0.58		ug/L			08/22/11 18:17	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**82**		0.050		mg/L		08/23/11 16:14	09/02/11 07:12	1
Manganese	**2.4**		0.010		mg/L		08/23/11 16:14	09/02/11 07:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**		5.0		mg/L			08/25/11 15:38	5
Nitrate as N	0.050	U	0.050		mg/L			08/17/11 15:09	1
Sulfate	**1500**		250		mg/L			08/25/11 16:49	50
Total Organic Carbon	**3.9**		1.0		mg/L			08/25/11 11:53	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**380**		5.0		mg/L			08/17/11 17:56	1
Carbon Dioxide, Free	**96**		5.0		mg/L			08/17/11 17:56	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-5D-F(0.2)-0811
Date Collected: 08/16/11 13:05
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-6
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	84		0.050		mg/L		08/23/11 16:14	09/02/11 07:17	1
Manganese, Dissolved	2.5		0.010		mg/L		08/23/11 16:14	09/02/11 07:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.0		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

Client Sample ID: BSA-MW-3D-0811
Date Collected: 08/16/11 14:55
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**52**		10		ug/L			08/25/11 17:58	10
Chlorobenzene	**1500**		10		ug/L			08/25/11 17:58	10
1,2-Dichlorobenzene	**24**		10		ug/L			08/25/11 17:58	10
1,3-Dichlorobenzene	**22**		10		ug/L			08/25/11 17:58	10
1,4-Dichlorobenzene	**520**		10		ug/L			08/25/11 17:58	10

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*113*		*70 - 130*		*08/25/11 17:58*	*10*
Dibromofluoromethane	*99*		*70 - 130*		*08/25/11 17:58*	*10*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/25/11 17:58*	*10*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.6	U	9.6		ug/L		08/19/11 14:58	08/22/11 17:22	1
1,4-Dioxane	9.6	U	9.6		ug/L		08/19/11 14:58	08/22/11 17:22	1
2-Chlorophenol	**12**		9.6		ug/L		08/19/11 14:58	08/22/11 17:22	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*59*		*25 - 130*	*08/19/11 14:58*	*08/22/11 17:22*	*1*
2,4,6-Tribromophenol	*85*		*31 - 141*	*08/19/11 14:58*	*08/22/11 17:22*	*1*
2-Fluorobiphenyl	*66*		*38 - 130*	*08/19/11 14:58*	*08/22/11 17:22*	*1*
2-Fluorophenol	*58*		*25 - 130*	*08/19/11 14:58*	*08/22/11 17:22*	*1*
Nitrobenzene-d5	*66*		*39 - 130*	*08/19/11 14:58*	*08/22/11 17:22*	*1*
Terphenyl-d14	*65*		*10 - 143*	*08/19/11 14:58*	*08/22/11 17:22*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**1.4**		1.1		ug/L			08/22/11 18:30	1
Ethylene	**1.2**		1.0		ug/L			08/22/11 18:30	1
Methane	**190**		0.58		ug/L			08/22/11 18:30	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**11**		0.050		mg/L		08/23/11 16:16	09/02/11 07:22	1
Manganese	**0.56**		0.010		mg/L		08/23/11 16:16	09/02/11 07:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**90**		1.0		mg/L			08/25/11 15:32	1
Nitrate as N	0.050	U	0.050		mg/L			08/17/11 15:10	1
Sulfate	**230**		50		mg/L			08/25/11 16:49	10
Total Organic Carbon	**4.8**		1.0		mg/L			08/25/11 12:07	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**480**		5.0		mg/L			08/17/11 18:19	1
Carbon Dioxide, Free	**27**		5.0		mg/L			08/17/11 18:19	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-3D-F(0.2)-0811
Date Collected: 08/16/11 14:55
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-8
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	11		0.050		mg/L		08/23/11 16:16	09/02/11 07:28	1
Manganese, Dissolved	0.55		0.010		mg/L		08/23/11 16:16	09/02/11 07:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.9		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-3D-0811-EB
Date Collected: 08/16/11 16:05
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.5**		1.0		ug/L			08/26/11 18:33	1
Chlorobenzene	1.0	U	1.0		ug/L			08/26/11 18:33	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 18:33	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 18:33	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 18:33	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*70 - 130*		*08/26/11 18:33*	*1*
Dibromofluoromethane	*104*		*70 - 130*		*08/26/11 18:33*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/26/11 18:33*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.7	U	9.7		ug/L		08/19/11 14:58	08/22/11 17:50	1
1,4-Dioxane	9.7	U	9.7		ug/L		08/19/11 14:58	08/22/11 17:50	1
2-Chlorophenol	9.7	U	9.7		ug/L		08/19/11 14:58	08/22/11 17:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*67*		*25 - 130*	*08/19/11 14:58*	*08/22/11 17:50*	*1*
2,4,6-Tribromophenol	*88*		*31 - 141*	*08/19/11 14:58*	*08/22/11 17:50*	*1*
2-Fluorobiphenyl	*75*		*38 - 130*	*08/19/11 14:58*	*08/22/11 17:50*	*1*
2-Fluorophenol	*67*		*25 - 130*	*08/19/11 14:58*	*08/22/11 17:50*	*1*
Nitrobenzene-d5	*75*		*39 - 130*	*08/19/11 14:58*	*08/22/11 17:50*	*1*
Terphenyl-d14	*73*		*10 - 143*	*08/19/11 14:58*	*08/22/11 17:50*	*1*

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: TB-2
Date Collected: 08/16/11 00:00
Date Received: 08/17/11 09:19

Lab Sample ID: 680-71445-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/26/11 17:06	1
Chlorobenzene	1.0	U	1.0		ug/L			08/26/11 17:06	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 17:06	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 17:06	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 17:06	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*70 - 130*		*08/26/11 17:06*	*1*
Dibromofluoromethane	*104*		*70 - 130*		*08/26/11 17:06*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/26/11 17:06*	*1*

SEP 22 2011

Client Sample ID: BSA-MW-4D-0811
Date Collected: 08/17/11 09:50
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**28**		20		ug/L			08/28/11 17:07	20
Chlorobenzene	**2600**		20		ug/L			08/28/11 17:07	20
1,2-Dichlorobenzene	20	U	20		ug/L			08/28/11 17:07	20
1,3-Dichlorobenzene	**32**		20		ug/L			08/28/11 17:07	20
1,4-Dichlorobenzene	**34**		20		ug/L			08/28/11 17:07	20

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*70 - 130*		*08/28/11 17:07*	*20*
Dibromofluoromethane	*96*		*70 - 130*		*08/28/11 17:07*	*20*
Toluene-d8 (Surr)	*87*		*70 - 130*		*08/28/11 17:07*	*20*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.6	U	9.6		ug/L		08/19/11 14:58	08/23/11 18:43	1
1,4-Dioxane	**32**		9.6		ug/L		08/19/11 14:58	08/23/11 18:43	1
2-Chlorophenol	**17**		9.6		ug/L		08/19/11 14:58	08/23/11 18:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*74*		*25 - 130*	*08/19/11 14:58*	*08/23/11 18:43*	*1*
2,4,6-Tribromophenol	*78*		*31 - 141*	*08/19/11 14:58*	*08/23/11 18:43*	*1*
2-Fluorobiphenyl	*70*		*38 - 130*	*08/19/11 14:58*	*08/23/11 18:43*	*1*
2-Fluorophenol	*76*		*25 - 130*	*08/19/11 14:58*	*08/23/11 18:43*	*1*
Nitrobenzene-d5	*69*		*39 - 130*	*08/19/11 14:58*	*08/23/11 18:43*	*1*
Terphenyl-d14	*24*		*10 - 143*	*08/19/11 14:58*	*08/23/11 18:43*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**3.7**		1.1		ug/L			08/22/11 19:21	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 19:21	1
Methane	**150**		0.58		ug/L			08/22/11 19:21	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**8.5**		0.050		mg/L		08/23/11 16:16	09/02/11 07:43	1
Manganese	**0.64**		0.010		mg/L		08/23/11 16:16	09/02/11 07:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		2.0		mg/L			08/25/11 15:38	2
Nitrate as N	0.050	U	0.050		mg/L			08/18/11 15:44	1
Sulfate	**66**		25		mg/L			08/25/11 16:44	5
Total Organic Carbon	**6.4**		1.0		mg/L			08/30/11 18:13	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**640**		5.0		mg/L			08/18/11 20:45	1
Carbon Dioxide, Free	**54**		5.0		mg/L			08/18/11 20:45	1

SEP 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-4D-F(0.2)-0811
Date Collected: 08/17/11 09:50
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-2
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	8.7		0.050		mg/L		08/23/11 16:16	09/02/11 07:49	1
Manganese, Dissolved	0.66		0.010		mg/L		08/23/11 16:16	09/02/11 07:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	6.1		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-4D-0811
Date Collected: 08/17/11 11:05
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**50**	J	2.0		ug/L			08/30/11 14:31	2
Chlorobenzene	**390**	J	2.0		ug/L			08/30/11 14:31	2
1,2-Dichlorobenzene	2.0	U UJ	2.0		ug/L			08/30/11 14:31	2
1,3-Dichlorobenzene	2.0	U UJ	2.0		ug/L			08/30/11 14:31	2
1,4-Dichlorobenzene	2.0	U UJ	2.0		ug/L			08/30/11 14:31	2

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*88*		*70 - 130*		*08/30/11 14:31*	*2*
Dibromofluoromethane	*100*		*70 - 130*		*08/30/11 14:31*	*2*
Toluene-d8 (Surr)	*90*		*70 - 130*		*08/30/11 14:31*	*2*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	**140**		38		ug/L		08/19/11 14:58	08/23/11 19:09	2
2-Chlorophenol	19	U	19		ug/L		08/19/11 14:58	08/23/11 19:09	2
1,2,4-Trichlorobenzene	19	U	19		ug/L		08/19/11 14:58	08/23/11 19:09	2

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*47*		*25 - 130*	*08/19/11 14:58*	*08/23/11 19:09*	*2*
2-Fluorophenol	*52*		*25 - 130*	*08/19/11 14:58*	*08/23/11 19:09*	*2*
2,4,6-Tribromophenol	*59*		*31 - 141*	*08/19/11 14:58*	*08/23/11 19:09*	*2*
Nitrobenzene-d5	*49*		*39 - 130*	*08/19/11 14:58*	*08/23/11 19:09*	*2*
2-Fluorobiphenyl	*55*		*38 - 130*	*08/19/11 14:58*	*08/23/11 19:09*	*2*
Terphenyl-d14	*23*		*10 - 143*	*08/19/11 14:58*	*08/23/11 19:09*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**16**		1.1		ug/L			08/22/11 19:34	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 19:34	1
Methane	**8700**		0.58		ug/L			08/22/11 19:34	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**11**		0.050		mg/L		08/23/11 16:16	09/02/11 07:54	1
Manganese	**0.24**		0.010		mg/L		08/23/11 16:16	09/02/11 07:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		5.0		mg/L			08/25/11 15:44	5
Nitrate as N	0.050	U	0.050		mg/L			08/18/11 15:45	1
Sulfate	5.0	U	5.0		mg/L			08/25/11 16:17	1
Total Organic Carbon	**5.9**		1.0		mg/L			08/30/11 18:29	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**760**		5.0		mg/L			08/18/11 20:57	1
Carbon Dioxide, Free	**51**		5.0		mg/L			08/18/11 20:57	1

SEP 22 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-4D-F(0.2)-0811
Date Collected: 08/17/11 11:05
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-4
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	11		0.050		mg/L		08/23/11 16:16	09/02/11 07:59	1
Manganese, Dissolved	0.24		0.010		mg/L		08/23/11 16:16	09/02/11 07:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	6.3		1.0		mg/L			08/23/11 08:18	1

SEP, 22 2011

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-5D-0811
Date Collected: 08/17/11 13:10
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10	U	10		ug/L			08/30/11 15:36	10
Chlorobenzene	**590**		10		ug/L			08/30/11 15:36	10
1,2-Dichlorobenzene	10	U	10		ug/L			08/30/11 15:36	10
1,3-Dichlorobenzene	10	U	10		ug/L			08/30/11 15:36	10
1,4-Dichlorobenzene	10	U	10		ug/L			08/30/11 15:36	10

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*70 - 130*		*08/30/11 15:36*	*10*
Dibromofluoromethane	*92*		*70 - 130*		*08/30/11 15:36*	*10*
Toluene-d8 (Surr)	*94*		*70 - 130*		*08/30/11 15:36*	*10*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.5	U	9.5		ug/L		08/19/11 14:58	08/23/11 19:36	1
1,4-Dioxane	9.5	U	9.5		ug/L		08/19/11 14:58	08/23/11 19:36	1
2-Chlorophenol	9.5	U	9.5		ug/L		08/19/11 14:58	08/23/11 19:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*50*		*25 - 130*	*08/19/11 14:58*	*08/23/11 19:36*	*1*
2,4,6-Tribromophenol	*62*		*31 - 141*	*08/19/11 14:58*	*08/23/11 19:36*	*1*
2-Fluorobiphenyl	*53*		*38 - 130*	*08/19/11 14:58*	*08/23/11 19:36*	*1*
2-Fluorophenol	*57*		*25 - 130*	*08/19/11 14:58*	*08/23/11 19:36*	*1*
Nitrobenzene-d5	*55*		*39 - 130*	*08/19/11 14:58*	*08/23/11 19:36*	*1*
Terphenyl-d14	*24*		*10 - 143*	*08/19/11 14:58*	*08/23/11 19:36*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**10**		1.1		ug/L			08/22/11 19:47	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 19:47	1
Methane	**54**		0.58		ug/L			08/22/11 19:47	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**15**		0.050		mg/L		08/23/11 16:16	09/02/11 08:04	1
Manganese	**0.55**		0.010		mg/L		08/23/11 16:16	09/02/11 08:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**250**		5.0		mg/L			08/25/11 15:44	5
Nitrate as N	0.050	U	0.050		mg/L			08/18/11 15:46	1
Sulfate	**380**		100		mg/L			08/25/11 16:52	20
Total Organic Carbon	**5.0**		1.0		mg/L			08/30/11 18:46	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**700**		5.0		mg/L			08/18/11 21:07	1
Carbon Dioxide, Free	**51**		5.0		mg/L			08/18/11 21:07	1

SEP 22 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-5D-F(0.2)-0811
Date Collected: 08/17/11 13:10
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-6
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	12		0.050		mg/L		08/23/11 16:16	09/02/11 08:10	1
Manganese, Dissolved	0.58		0.010		mg/L		08/23/11 16:16	09/02/11 08:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	5.0		1.0		mg/L			08/23/11 08:18	1

SEP 22 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: TB-3
Date Collected: 08/17/11 00:00
Date Received: 08/18/11 09:37

Lab Sample ID: 680-71493-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/28/11 14:54	1
Chlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:54	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:54	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:54	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*70 - 130*		*08/28/11 14:54*	*1*
Dibromofluoromethane	*107*		*70 - 130*		*08/28/11 14:54*	*1*
Toluene-d8 (Surr)	*92*		*70 - 130*		*08/28/11 14:54*	*1*

SEP 22 2011

TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
680-71407-1	BSA-MW-1S-0811	107	97	98
680-71407-3	CPA-MW-2D-0811	104	97	98
680-71407-5	CPA-MW-2D--0811-AD	102	96	98
680-71407-6	CPA-MW-1D-0811	105	96	98
680-71407-8	TB-1	98	105	97
680-71445-1	BSA-MW-2D-0811	104	100	102
680-71445-3	CPA-MW-3D-0811	104	98	103
680-71445-5	CPA-MW-5D-0811	106	99	102
680-71445-5 MS	CPA-MW-5D-0811	99	97	97
680-71445-5 MSD	CPA-MW-5D-0811	101	98	98
680-71445-7	BSA-MW-3D-0811	113	99	102
680-71445-9	BSA-MW-3D-0811-EB	110	104	102
680-71445-10	TB-2	108	104	102
680-71493-1	BSA-MW-4D-0811	86	96	87
680-71493-3	CPA-MW-4D-0811	88	100	90
680-71493-5	BSA-MW-5D-0811	87	92	94
680-71493-7	TB-3	85	107	92
LCS 680-212578/4	Lab Control Sample	102	99	101
LCS 680-212580/12	Lab Control Sample	102	101	101
LCS 680-212817/4	Lab Control Sample	105	95	101
LCS 680-212983/5	Lab Control Sample	101	102	101
LCS 680-212984/4	Lab Control Sample	101	103	101
LCS 680-213206/11	Lab Control Sample	99	102	106
LCS 680-213243/13	Lab Control Sample	102	101	100
LCS 680-213379/8	Lab Control Sample	85	92	87
LCSD 680-212578/5	Lab Control Sample Dup	100	98	99
LCSD 680-212580/13	Lab Control Sample Dup	105	100	101
LCSD 680-212817/5	Lab Control Sample Dup	106	97	103
LCSD 680-212983/6	Lab Control Sample Dup	101	104	104
LCSD 680-212984/5	Lab Control Sample Dup	106	102	103
LCSD 680-213206/12	Lab Control Sample Dup	102	102	107
LCSD 680-213243/14	Lab Control Sample Dup	102	102	103
LCSD 680-213379/9	Lab Control Sample Dup	102	106	106
MB 680-212578/7	Method Blank	106	104	98
MB 680-212580/15	Method Blank	98	105	96
MB 680-212817/8	Method Blank	101	104	94
MB 680-212983/4	Method Blank	107	107	102
MB 680-212984/8	Method Blank	100	107	101
MB 680-213206/13	Method Blank	86	102	95
MB 680-213243/17	Method Blank	109	103	102
MB 680-213379/11	Method Blank	92	126	107

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

SEP 22 2011

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	PHL (25-130)	2FP (25-130)	TBP (31-141)	NBZ (39-130)	FBP (38-130)	TPH (10-143)
680-71407-1	BSA-MW-1S-0811	64	66	83	66	62	51
680-71407-3	CPA-MW-2D-0811	67	73	80	67	71	32
680-71407-5	CPA-MW-2D--0811-AD	66	72	82	68	70	39
680-71407-6	CPA-MW-1D-0811	54	66	67	64	64	16
680-71445-1	BSA-MW-2D-0811	66	63	90	71	69	58
680-71445-3	CPA-MW-3D-0811	66	63	91	73	73	67
680-71445-5	CPA-MW-5D-0811	61	61	93	78	78	75
680-71445-5 MS	CPA-MW-5D-0811	63	60	89	71	73	30
680-71445-5 MSD	CPA-MW-5D-0811	64	64	91	73	74	33
680-71445-7	BSA-MW-3D-0811	59	58	85	66	66	65
680-71445-9	BSA-MW-3D-0811-EB	67	67	88	75	75	73
680-71493-1	BSA-MW-4D-0811	74	76	78	69	70	24
680-71493-3	CPA-MW-4D-0811	47	52	59	49	55	23
680-71493-5	BSA-MW-5D-0811	50	57	62	55	53	24
LCS 680-212318/19-A	Lab Control Sample	68	69	93	75	77	66
MB 680-212318/18-A	Method Blank	59	61	83	67	70	69

Surrogate Legend

PHL = Phenol-d5
2FP = 2-Fluorophenol
TBP = 2,4,6-Tribromophenol
NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl
TPH = Terphenyl-d14

SEP 22 2011

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-212578/7
Matrix: Water
Analysis Batch: 212578

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/22/11 12:38	1
Chlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:38	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:38	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:38	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:38	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*70 - 130*		*08/22/11 12:38*	*1*
Dibromofluoromethane	*104*		*70 - 130*		*08/22/11 12:38*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*08/22/11 12:38*	*1*

Lab Sample ID: LCS 680-212578/4
Matrix: Water
Analysis Batch: 212578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	48.5		ug/L		97	70 - 130
Chlorobenzene	50.0	50.8		ug/L		102	70 - 130
1,2-Dichlorobenzene	50.0	62.4		ug/L		125	70 - 130
1,3-Dichlorobenzene	50.0	65.7	*	ug/L		131	70 - 130
1,4-Dichlorobenzene	50.0	64.1		ug/L		128	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*70 - 130*
Dibromofluoromethane	*99*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 680-212578/5
Matrix: Water
Analysis Batch: 212578

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	47.9		ug/L		96	70 - 130	1	30
Chlorobenzene	50.0	50.2		ug/L		100	70 - 130	1	30
1,2-Dichlorobenzene	50.0	60.5		ug/L		121	70 - 130	3	30
1,3-Dichlorobenzene	50.0	64.2		ug/L		128	70 - 130	2	30
1,4-Dichlorobenzene	50.0	62.3		ug/L		125	70 - 130	3	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*70 - 130*
Dibromofluoromethane	*98*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 680-212580/15
Matrix: Water
Analysis Batch: 212580

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/22/11 12:52	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-212580/15
Matrix: Water
Analysis Batch: 212580

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:52	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:52	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:52	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/22/11 12:52	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*70 - 130*		*08/22/11 12:52*	*1*
Dibromofluoromethane	*105*		*70 - 130*		*08/22/11 12:52*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*08/22/11 12:52*	*1*

Lab Sample ID: LCS 680-212580/12
Matrix: Water
Analysis Batch: 212580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	48.5		ug/L		97	70 - 130
Chlorobenzene	50.0	50.5		ug/L		101	70 - 130
1,2-Dichlorobenzene	50.0	52.3		ug/L		105	70 - 130
1,3-Dichlorobenzene	50.0	52.4		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	51.5		ug/L		103	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*70 - 130*
Dibromofluoromethane	*101*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 680-212580/13
Matrix: Water
Analysis Batch: 212580

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	48.9		ug/L		98	70 - 130	1	30
Chlorobenzene	50.0	51.9		ug/L		104	70 - 130	3	30
1,2-Dichlorobenzene	50.0	53.5		ug/L		107	70 - 130	2	30
1,3-Dichlorobenzene	50.0	53.6		ug/L		107	70 - 130	2	30
1,4-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130	2	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*70 - 130*
Dibromofluoromethane	*100*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 680-212817/8
Matrix: Water
Analysis Batch: 212817

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/23/11 11:13	1
Chlorobenzene	1.0	U	1.0		ug/L			08/23/11 11:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-212817/8
Matrix: Water
Analysis Batch: 212817

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/23/11 11:13	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/23/11 11:13	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/23/11 11:13	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*70 - 130*		*08/23/11 11:13*	*1*
Dibromofluoromethane	*104*		*70 - 130*		*08/23/11 11:13*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*08/23/11 11:13*	*1*

Lab Sample ID: LCS 680-212817/4
Matrix: Water
Analysis Batch: 212817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	47.9		ug/L		96	70 - 130
Chlorobenzene	50.0	50.7		ug/L		101	70 - 130
1,2-Dichlorobenzene	50.0	53.7		ug/L		107	70 - 130
1,3-Dichlorobenzene	50.0	54.0		ug/L		108	70 - 130
1,4-Dichlorobenzene	50.0	53.7		ug/L		107	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*70 - 130*
Dibromofluoromethane	*95*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 680-212817/5
Matrix: Water
Analysis Batch: 212817

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	47.4		ug/L		95	70 - 130	1	30
Chlorobenzene	50.0	51.6		ug/L		103	70 - 130	2	30
1,2-Dichlorobenzene	50.0	55.1		ug/L		110	70 - 130	3	30
1,3-Dichlorobenzene	50.0	54.9		ug/L		110	70 - 130	2	30
1,4-Dichlorobenzene	50.0	54.0		ug/L		108	70 - 130	1	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*70 - 130*
Dibromofluoromethane	*97*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 680-212983/4
Matrix: Water
Analysis Batch: 212983

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/25/11 12:12	1
Chlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:12	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:12	1

SEP 22 2011

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-212983/4
Matrix: Water
Analysis Batch: 212983

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:12	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:12	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*70 - 130*		*08/25/11 12:12*	*1*
Dibromofluoromethane	*107*		*70 - 130*		*08/25/11 12:12*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/25/11 12:12*	*1*

Lab Sample ID: LCS 680-212983/5
Matrix: Water
Analysis Batch: 212983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	50.4		ug/L		101	70 - 130
Chlorobenzene	50.0	49.5		ug/L		99	70 - 130
1,2-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130
1,3-Dichlorobenzene	50.0	50.1		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	50.1		ug/L		100	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*70 - 130*
Dibromofluoromethane	*102*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 680-212983/6
Matrix: Water
Analysis Batch: 212983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	51.6		ug/L		103	70 - 130	2	30
Chlorobenzene	50.0	50.5		ug/L		101	70 - 130	2	30
1,2-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130	1	30
1,3-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130	0	30
1,4-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130	1	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*70 - 130*
Dibromofluoromethane	*104*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: 680-71445-5 MS
Matrix: Water
Analysis Batch: 212983

Client Sample ID: CPA-MW-5D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	20	U	1000	969		ug/L		97	70 - 130
Chlorobenzene	1200		1000	2080		ug/L		84	70 - 130
1,2-Dichlorobenzene	20	U	1000	965		ug/L		97	70 - 130
1,3-Dichlorobenzene	20	U	1000	969		ug/L		97	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-71445-5 MS
Matrix: Water
Analysis Batch: 212983

Client Sample ID: CPA-MW-5D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
1,4-Dichlorobenzene	20	U	1000	973		ug/L		97	70 - 130

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*70 - 130*
Dibromofluoromethane	*97*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: 680-71445-5 MSD
Matrix: Water
Analysis Batch: 212983

Client Sample ID: CPA-MW-5D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	20	U	1000	993		ug/L		99	70 - 130	2	30
Chlorobenzene	1200		1000	2100		ug/L		86	70 - 130	1	30
1,2-Dichlorobenzene	20	U	1000	1020		ug/L		102	70 - 130	6	30
1,3-Dichlorobenzene	20	U	1000	1010		ug/L		101	70 - 130	4	30
1,4-Dichlorobenzene	20	U	1000	1010		ug/L		101	70 - 130	4	30

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*70 - 130*
Dibromofluoromethane	*98*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: MB 680-212984/8
Matrix: Water
Analysis Batch: 212984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/25/11 12:26	1
Chlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:26	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:26	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:26	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/25/11 12:26	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*70 - 130*		*08/25/11 12:26*	*1*
Dibromofluoromethane	*107*		*70 - 130*		*08/25/11 12:26*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*08/25/11 12:26*	*1*

Lab Sample ID: LCS 680-212984/4
Matrix: Water
Analysis Batch: 212984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	51.2		ug/L		102	70 - 130
Chlorobenzene	50.0	50.5		ug/L		101	70 - 130
1,2-Dichlorobenzene	50.0	50.7		ug/L		101	70 - 130
1,3-Dichlorobenzene	50.0	50.5		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130

SEP 22 2011

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-212984/4
Matrix: Water
Analysis Batch: 212984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*70 - 130*
Dibromofluoromethane	*103*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 680-212984/5
Matrix: Water
Analysis Batch: 212984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	51.7		ug/L		103	70 - 130	1	30
Chlorobenzene	50.0	52.1		ug/L		104	70 - 130	3	30
1,2-Dichlorobenzene	50.0	51.8		ug/L		104	70 - 130	2	30
1,3-Dichlorobenzene	50.0	52.2		ug/L		104	70 - 130	3	30
1,4-Dichlorobenzene	50.0	51.1		ug/L		102	70 - 130	3	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*70 - 130*
Dibromofluoromethane	*102*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 680-213206/13
Matrix: Water
Analysis Batch: 213206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/28/11 14:31	1
Chlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:31	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:31	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:31	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/28/11 14:31	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*70 - 130*		*08/28/11 14:31*	*1*
Dibromofluoromethane	*102*		*70 - 130*		*08/28/11 14:31*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*08/28/11 14:31*	*1*

Lab Sample ID: LCS 680-213206/11
Matrix: Water
Analysis Batch: 213206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	52.2		ug/L		104	70 - 130
Chlorobenzene	50.0	49.3		ug/L		99	70 - 130
1,2-Dichlorobenzene	50.0	53.6		ug/L		107	70 - 130
1,3-Dichlorobenzene	50.0	51.8		ug/L		104	70 - 130
1,4-Dichlorobenzene	50.0	53.8		ug/L		108	70 - 130

SEP 22 2011

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-213206/11
Matrix: Water
Analysis Batch: 213206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS % Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	102		70 - 130
Toluene-d8 (Surr)	106		70 - 130

Lab Sample ID: LCSD 680-213206/12
Matrix: Water
Analysis Batch: 213206

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	54.4		ug/L		109	70 - 130	4	30
Chlorobenzene	50.0	52.1		ug/L		104	70 - 130	6	30
1,2-Dichlorobenzene	50.0	53.8		ug/L		108	70 - 130	0	30
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	70 - 130	0	30
1,4-Dichlorobenzene	50.0	54.9		ug/L		110	70 - 130	2	30

Surrogate	LCSD % Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	102		70 - 130
Dibromofluoromethane	102		70 - 130
Toluene-d8 (Surr)	107		70 - 130

Lab Sample ID: MB 680-213243/17
Matrix: Water
Analysis Batch: 213243

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/26/11 16:37	1
Chlorobenzene	1.0	U	1.0		ug/L			08/26/11 16:37	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 16:37	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 16:37	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/26/11 16:37	1

Surrogate	MB % Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		70 - 130		08/26/11 16:37	1
Dibromofluoromethane	103		70 - 130		08/26/11 16:37	1
Toluene-d8 (Surr)	102		70 - 130		08/26/11 16:37	1

Lab Sample ID: LCS 680-213243/13
Matrix: Water
Analysis Batch: 213243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	50.3		ug/L		101	70 - 130
Chlorobenzene	50.0	49.1		ug/L		98	70 - 130
1,2-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130
1,3-Dichlorobenzene	50.0	50.8		ug/L		102	70 - 130
1,4-Dichlorobenzene	50.0	50.7		ug/L		101	70 - 130

SEP 22 2011

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-213243/13
Matrix: Water
Analysis Batch: 213243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS % Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	102		70 - 130
Dibromofluoromethane	101		70 - 130
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: LCSD 680-213243/14
Matrix: Water
Analysis Batch: 213243

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	51.6		ug/L		103	70 - 130	3	30
Chlorobenzene	50.0	50.2		ug/L		100	70 - 130	2	30
1,2-Dichlorobenzene	50.0	51.5		ug/L		103	70 - 130	3	30
1,3-Dichlorobenzene	50.0	51.2		ug/L		102	70 - 130	1	30
1,4-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130	1	30

Surrogate	LCSD % Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	102		70 - 130
Dibromofluoromethane	102		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: MB 680-213379/11
Matrix: Water
Analysis Batch: 213379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			08/30/11 11:56	1
Chlorobenzene	1.0	U	1.0		ug/L			08/30/11 11:56	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			08/30/11 11:56	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			08/30/11 11:56	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			08/30/11 11:56	1

Surrogate	MB % Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		70 - 130		08/30/11 11:56	1
Dibromofluoromethane	126		70 - 130		08/30/11 11:56	1
Toluene-d8 (Surr)	107		70 - 130		08/30/11 11:56	1

Lab Sample ID: LCS 680-213379/8
Matrix: Water
Analysis Batch: 213379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	46.2		ug/L		92	70 - 130
Chlorobenzene	50.0	42.3		ug/L		85	70 - 130
1,2-Dichlorobenzene	50.0	43.6		ug/L		87	70 - 130
1,3-Dichlorobenzene	50.0	42.9		ug/L		86	70 - 130
1,4-Dichlorobenzene	50.0	44.7		ug/L		89	70 - 130

SEP 22 2011

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-213379/8
Matrix: Water
Analysis Batch: 213379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS % Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*85*		*70 - 130*
Dibromofluoromethane	*92*		*70 - 130*
Toluene-d8 (Surr)	*87*		*70 - 130*

Lab Sample ID: LCSD 680-213379/9
Matrix: Water
Analysis Batch: 213379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	53.1		ug/L		106	70 - 130	14	30
Chlorobenzene	50.0	49.6		ug/L		99	70 - 130	16	30
1,2-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130	19	30
1,3-Dichlorobenzene	50.0	51.6		ug/L		103	70 - 130	19	30
1,4-Dichlorobenzene	50.0	53.3		ug/L		107	70 - 130	17	30

Surrogate	LCSD % Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*102*		*70 - 130*
Dibromofluoromethane	*106*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-212318/18-A
Matrix: Water
Analysis Batch: 212469

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 212318

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	20	U	20		ug/L		08/19/11 14:58	08/22/11 12:40	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		08/19/11 14:58	08/22/11 12:40	1
1,4-Dioxane	10	U	10		ug/L		08/19/11 14:58	08/22/11 12:40	1
2-Chlorophenol	10	U	10		ug/L		08/19/11 14:58	08/22/11 12:40	1

Surrogate	MB % Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	*59*		*25 - 130*	*08/19/11 14:58*	*08/22/11 12:40*	*1*
2,4,6-Tribromophenol	*83*		*31 - 141*	*08/19/11 14:58*	*08/22/11 12:40*	*1*
2-Fluorophenol	*61*		*25 - 130*	*08/19/11 14:58*	*08/22/11 12:40*	*1*
2-Fluorobiphenyl	*70*		*38 - 130*	*08/19/11 14:58*	*08/22/11 12:40*	*1*
Nitrobenzene-d5	*67*		*39 - 130*	*08/19/11 14:58*	*08/22/11 12:40*	*1*
Terphenyl-d14	*69*		*10 - 143*	*08/19/11 14:58*	*08/22/11 12:40*	*1*

Lab Sample ID: LCS 680-212318/19-A
Matrix: Water
Analysis Batch: 212469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 212318

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
4-Chloroaniline	100	57.4		ug/L		57	42 - 130
1,2,4-Trichlorobenzene	100	63.8		ug/L		64	42 - 130
1,4-Dioxane	100	48.2		ug/L		48	35 - 130
2-Chlorophenol	100	72.8		ug/L		73	57 - 130

SEP 22 2011

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-212318/19-A
Matrix: Water
Analysis Batch: 212469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 212318

Surrogate	LCS % Recovery	LCS Qualifier	Limits
Phenol-d5	68		25 - 130
2,4,6-Tribromophenol	93		31 - 141
2-Fluorophenol	69		25 - 130
2-Fluorobiphenyl	77		38 - 130
Nitrobenzene-d5	75		39 - 130
Terphenyl-d14	66		10 - 143

Lab Sample ID: 680-71445-5 MS
Matrix: Water
Analysis Batch: 212469

Client Sample ID: CPA-MW-5D-0811
Prep Type: Total/NA
Prep Batch: 212318

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
4-Chloroaniline	19	U	94.8	19.4	F	ug/L		20	42 - 130
2-Chlorophenol	11		94.8	67.9		ug/L		60	57 - 130
1,4-Dioxane	9.5		94.8	37.2		ug/L		39	35 - 130
1,2,4-Trichlorobenzene	9.5	U	94.8	53.4		ug/L		56	42 - 130

Surrogate	MS % Recovery	MS Qualifier	Limits
Phenol-d5	63		25 - 130
2-Fluorophenol	60		25 - 130
2,4,6-Tribromophenol	89		31 - 141
Nitrobenzene-d5	71		39 - 130
2-Fluorobiphenyl	73		38 - 130
Terphenyl-d14	30		10 - 143

Lab Sample ID: 680-71445-5 MSD
Matrix: Water
Analysis Batch: 212469

Client Sample ID: CPA-MW-5D-0811
Prep Type: Total/NA
Prep Batch: 212318

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
4-Chloroaniline	19	U	95.3	22.5	F	ug/L		24	42 - 130	15	50
2-Chlorophenol	11		95.3	71.0		ug/L		63	57 - 130	4	50
1,4-Dioxane	9.5		95.3	41.3		ug/L		43	35 - 130	10	50
1,2,4-Trichlorobenzene	9.5	U	95.3	57.7		ug/L		61	42 - 130	8	50

Surrogate	MSD % Recovery	MSD Qualifier	Limits
Phenol-d5	64		25 - 130
2-Fluorophenol	64		25 - 130
2,4,6-Tribromophenol	91		31 - 141
Nitrobenzene-d5	73		39 - 130
2-Fluorobiphenyl	74		38 - 130
Terphenyl-d14	33		10 - 143

SEP 22 2011

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-212627/15
Matrix: Water
Analysis Batch: 212627

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			08/22/11 16:33	1
Ethylene	1.0	U	1.0		ug/L			08/22/11 16:33	1
Methane	0.58	U	0.58		ug/L			08/22/11 16:33	1

Lab Sample ID: LCS 680-212627/14
Matrix: Water
Analysis Batch: 212627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethane	282	327		ug/L		116	75 - 125
Ethylene	271	317		ug/L		117	75 - 125
Methane	153	181		ug/L		118	75 - 125

Lab Sample ID: LCSD 680-212627/16
Matrix: Water
Analysis Batch: 212627

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethane	282	299		ug/L		106	75 - 125	9	30
Ethylene	271	291		ug/L		108	75 - 125	9	30
Methane	153	166		ug/L		108	75 - 125	9	30

Lab Sample ID: MB 680-212629/9
Matrix: Water
Analysis Batch: 212629

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.58	U	0.58		ug/L			08/22/11 16:33	1

Lab Sample ID: LCS 680-212629/8
Matrix: Water
Analysis Batch: 212629

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methane	1910	1610		ug/L		84	75 - 125

Lab Sample ID: LCSD 680-212629/10
Matrix: Water
Analysis Batch: 212629

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane	1910	1640		ug/L		86	75 - 125	2	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-212678/1-A
Matrix: Water
Analysis Batch: 213761

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 212678

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		08/23/11 16:14	09/02/11 05:38	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 680-212678/1-A
Matrix: Water
Analysis Batch: 213761

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 212678

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		08/23/11 16:14	09/02/11 05:38	1
Manganese	0.010	U	0.010		mg/L		08/23/11 16:14	09/02/11 05:38	1
Manganese, Dissolved	0.010	U	0.010		mg/L		08/23/11 16:14	09/02/11 05:38	1

Lab Sample ID: LCS 680-212678/2-A
Matrix: Water
Analysis Batch: 213761

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 212678

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	5.00	5.06		mg/L		101	75 - 125
Iron, Dissolved	5.00	5.06		mg/L		101	75 - 125
Manganese	0.500	0.517		mg/L		103	75 - 125
Manganese, Dissolved	0.500	0.517		mg/L		103	75 - 125

Lab Sample ID: 680-71407-1 MS
Matrix: Water
Analysis Batch: 213761

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total Recoverable
Prep Batch: 212678

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	4.5		5.00	9.31		mg/L		96	75 - 125
Iron, Dissolved	4.5		5.00	9.31		mg/L		96	75 - 125
Manganese	0.63		0.500	1.12		mg/L		98	75 - 125
Manganese, Dissolved	0.63		0.500	1.12		mg/L		98	75 - 125

Lab Sample ID: 680-71407-1 MSD
Matrix: Water
Analysis Batch: 213761

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total Recoverable
Prep Batch: 212678

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Iron	4.5		5.00	9.50		mg/L		100	75 - 125	2	20
Iron, Dissolved	4.5		5.00	9.50		mg/L		100	75 - 125	2	20
Manganese	0.63		0.500	1.14		mg/L		102	75 - 125	2	20
Manganese, Dissolved	0.63		0.500	1.14		mg/L		102	75 - 125	2	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-212043/2
Matrix: Water
Analysis Batch: 212043

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			08/16/11 15:16	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			08/16/11 15:16	1

Lab Sample ID: LCS 680-212043/3
Matrix: Water
Analysis Batch: 212043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	230	212		mg/L		92	80 - 120

SEP 22 2011

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCSD 680-212043/12
Matrix: Water
Analysis Batch: 212043

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Alkalinity	230	209		mg/L		91	80 - 120	2	30

Lab Sample ID: MB 680-212187/2
Matrix: Water
Analysis Batch: 212187

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			08/17/11 16:01	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			08/17/11 16:01	1

Lab Sample ID: LCS 680-212187/3
Matrix: Water
Analysis Batch: 212187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	230	219		mg/L		95	80 - 120

Lab Sample ID: LCSD 680-212187/28
Matrix: Water
Analysis Batch: 212187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Alkalinity	230	209		mg/L		91	80 - 120	4	30

Lab Sample ID: 680-71445-5 DU
Matrix: Water
Analysis Batch: 212187

Client Sample ID: CPA-MW-5D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	380		381		mg/L		0.03	30
Carbon Dioxide, Free	96		95.3		mg/L		0.5	30

Lab Sample ID: MB 680-212405/2
Matrix: Water
Analysis Batch: 212405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			08/18/11 20:27	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			08/18/11 20:27	1

Lab Sample ID: LCS 680-212405/3
Matrix: Water
Analysis Batch: 212405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	230	209		mg/L		91	80 - 120

SEP 22 2011

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCSD 680-212405/11
Matrix: Water
Analysis Batch: 212405

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Alkalinity	230	209		mg/L		91	80 - 120	0	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-212944/1
Matrix: Water
Analysis Batch: 212944

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			08/25/11 15:02	1

Lab Sample ID: LCS 680-212944/6
Matrix: Water
Analysis Batch: 212944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	50.0	54.8		mg/L		110	85 - 115

Lab Sample ID: 680-71407-1 MS
Matrix: Water
Analysis Batch: 212944

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	240		50.0	280	4	mg/L		77	85 - 115

Lab Sample ID: 680-71407-1 MSD
Matrix: Water
Analysis Batch: 212944

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Chloride	240		50.0	278	4	mg/L		74	85 - 115	0	30

Lab Sample ID: 680-71407-3 DU
Matrix: Water
Analysis Batch: 212944

Client Sample ID: CPA-MW-2D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	65		65.8		mg/L		0.5	30

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-212081/14
Matrix: Water
Analysis Batch: 212081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			08/16/11 17:28	1

SEP. 22 2011

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Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 680-212081/15
Matrix: Water
Analysis Batch: 212081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.501		mg/L		100	90 - 110
Nitrate Nitrite as N	1.00	1.00		mg/L		100	90 - 110
Nitrite as N	0.500	0.501		mg/L		100	90 - 110

Lab Sample ID: 680-71407-1 MS
Matrix: Water
Analysis Batch: 212081

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.050	U	0.500	0.522		mg/L		104	90 - 110
Nitrate Nitrite as N	0.050		1.00	1.03		mg/L		103	90 - 110
Nitrite as N	0.050		0.500	0.503		mg/L		101	90 - 110

Lab Sample ID: 680-71407-1 MSD
Matrix: Water
Analysis Batch: 212081

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Nitrate as N	0.050	U	0.500	0.521		mg/L		104	90 - 110	0	10
Nitrate Nitrite as N	0.050		1.00	1.03		mg/L		103	90 - 110	0	10
Nitrite as N	0.050		0.500	0.504		mg/L		101	90 - 110	0	10

Lab Sample ID: MB 680-212333/14
Matrix: Water
Analysis Batch: 212333

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			08/17/11 14:53	1

Lab Sample ID: LCS 680-212333/15
Matrix: Water
Analysis Batch: 212333

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.496		mg/L		99	90 - 110
Nitrate Nitrite as N	1.00	1.00		mg/L		100	90 - 110
Nitrite as N	0.500	0.506		mg/L		101	90 - 110

Lab Sample ID: MB 680-212334/14
Matrix: Water
Analysis Batch: 212334

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			08/18/11 15:37	1

Lab Sample ID: LCS 680-212334/15
Matrix: Water
Analysis Batch: 212334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.504		mg/L		101	90 - 110

SEP 22 2011

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 680-212334/15
Matrix: Water
Analysis Batch: 212334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate Nitrite as N	1.00	1.01		mg/L		101	90 - 110
Nitrite as N	0.500	0.507		mg/L		101	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-212968/1
Matrix: Water
Analysis Batch: 212968

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			08/25/11 16:04	1

Lab Sample ID: LCS 680-212968/2
Matrix: Water
Analysis Batch: 212968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	20.0	20.7		mg/L		103	75 - 125

Lab Sample ID: 680-71407-1 MS
Matrix: Water
Analysis Batch: 212968

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	50	U	200	202		mg/L		101	75 - 125

Lab Sample ID: 680-71407-1 MSD
Matrix: Water
Analysis Batch: 212968

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Sulfate	50	U	200	197		mg/L		99	75 - 125	2	30

Lab Sample ID: 680-71407-3 DU
Matrix: Water
Analysis Batch: 212968

Client Sample ID: CPA-MW-2D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	5.0	U	5.0	U	mg/L		NC	30

Method: 415.1 - DOC

Lab Sample ID: 680-71445-2 DU
Matrix: Water
Analysis Batch: 212706

Client Sample ID: BSA-MW-2D-F(0.2)-0811
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Dissolved Organic Carbon	6.1		5.92		mg/L		2	30

SEP 22 2011

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Method: 415.1 - TOC

Lab Sample ID: MB 680-212990/2
Matrix: Water
Analysis Batch: 212990

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			08/25/11 08:48	1

Lab Sample ID: LCS 680-212990/4
Matrix: Water
Analysis Batch: 212990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	20.0	19.3		mg/L		97	80 - 120

Lab Sample ID: MB 680-213429/35
Matrix: Water
Analysis Batch: 213429

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			08/30/11 16:33	1

Lab Sample ID: LCS 680-213429/36
Matrix: Water
Analysis Batch: 213429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	20.0	19.5		mg/L		98	80 - 120

Lab Sample ID: 680-71407-1 MS
Matrix: Water
Analysis Batch: 213429

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	6.9		20.0	27.3		mg/L		102	80 - 120

Lab Sample ID: 680-71407-1 MSD
Matrix: Water
Analysis Batch: 213429

Client Sample ID: BSA-MW-1S-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Total Organic Carbon	6.9		20.0	27.0		mg/L		100	80 - 120	1	25

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Analysis Batch: 212578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	8260B	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	8260B	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	8260B	
LCS 680-212578/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-212578/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-212578/7	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 212580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-8	TB-1	Total/NA	Water	8260B	
LCS 680-212580/12	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-212580/13	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-212580/15	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 212817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-5	CPA-MW-2D--0811-AD	Total/NA	Water	8260B	
LCS 680-212817/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-212817/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-212817/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 212983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-5 MS	CPA-MW-5D-0811	Total/NA	Water	8260B	
680-71445-5 MSD	CPA-MW-5D-0811	Total/NA	Water	8260B	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	8260B	
LCS 680-212983/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-212983/6	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-212983/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 212984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	8260B	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	8260B	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	8260B	
LCS 680-212984/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-212984/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-212984/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 213206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	8260B	
680-71493-7	TB-3	Total/NA	Water	8260B	
LCS 680-213206/11	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-213206/12	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-213206/13	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 213243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-9	BSA-MW-3D-0811-EB	Total/NA	Water	8260B	
680-71445-10	TB-2	Total/NA	Water	8260B	
LCS 680-213243/13	Lab Control Sample	Total/NA	Water	8260B	

GC/MS VOA (Continued)

Analysis Batch: 213243 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 680-213243/14	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-213243/17	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 213379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	8260B	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	8260B	
LCS 680-213379/8	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-213379/9	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-213379/11	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 212318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	3520C	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	3520C	
680-71407-5	CPA-MW-2D--0811-AD	Total/NA	Water	3520C	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	3520C	
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	3520C	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	3520C	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	3520C	
680-71445-5 MS	CPA-MW-5D-0811	Total/NA	Water	3520C	
680-71445-5 MSD	CPA-MW-5D-0811	Total/NA	Water	3520C	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	3520C	
680-71445-9	BSA-MW-3D-0811-EB	Total/NA	Water	3520C	
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	3520C	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	3520C	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	3520C	
LCS 680-212318/19-A	Lab Control Sample	Total/NA	Water	3520C	
MB 680-212318/18-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 212469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	8270C	212318
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	8270C	212318
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	8270C	212318
680-71445-5 MS	CPA-MW-5D-0811	Total/NA	Water	8270C	212318
680-71445-5 MSD	CPA-MW-5D-0811	Total/NA	Water	8270C	212318
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	8270C	212318
680-71445-9	BSA-MW-3D-0811-EB	Total/NA	Water	8270C	212318
LCS 680-212318/19-A	Lab Control Sample	Total/NA	Water	8270C	212318
MB 680-212318/18-A	Method Blank	Total/NA	Water	8270C	212318

Analysis Batch: 212664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	8270C	212318
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	8270C	212318
680-71407-5	CPA-MW-2D--0811-AD	Total/NA	Water	8270C	212318
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	8270C	212318
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	8270C	212318
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	8270C	212318

GC/MS Semi VOA (Continued)

Analysis Batch: 212664 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	8270C	212318

GC VOA

Analysis Batch: 212627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	RSK-175	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	RSK-175	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	RSK-175	
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	RSK-175	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	RSK-175	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	RSK-175	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	RSK-175	
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	RSK-175	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	RSK-175	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	RSK-175	
LCS 680-212627/14	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-212627/16	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-212627/15	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 212629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	RSK-175	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	RSK-175	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	RSK-175	
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	RSK-175	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	RSK-175	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	RSK-175	
LCS 680-212629/8	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-212629/10	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-212629/9	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 212678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total Recoverable	Water	3005A	
680-71407-1 MS	BSA-MW-1S-0811	Total Recoverable	Water	3005A	
680-71407-1 MSD	BSA-MW-1S-0811	Total Recoverable	Water	3005A	
680-71407-2	BSA-MW-1S-F(0.2)-0811	Dissolved	Water	3005A	
680-71407-3	CPA-MW-2D-0811	Total Recoverable	Water	3005A	
680-71407-4	CPA-MW-2D-F(0.2)-0811	Dissolved	Water	3005A	
680-71407-6	CPA-MW-1D-0811	Total Recoverable	Water	3005A	
680-71407-7	CPA-MW-1D-F(0.2)-0811	Dissolved	Water	3005A	
680-71445-1	BSA-MW-2D-0811	Total Recoverable	Water	3005A	
680-71445-2	BSA-MW-2D-F(0.2)-0811	Dissolved	Water	3005A	
680-71445-3	CPA-MW-3D-0811	Total Recoverable	Water	3005A	
680-71445-4	CPA-MW-3D-F(0.2)-0811	Dissolved	Water	3005A	
680-71445-5	CPA-MW-5D-0811	Total Recoverable	Water	3005A	
680-71445-6	CPA-MW-5D-F(0.2)-0811	Dissolved	Water	3005A	
680-71445-7	BSA-MW-3D-0811	Total Recoverable	Water	3005A	
680-71445-8	BSA-MW-3D-F(0.2)-0811	Dissolved	Water	3005A	

SEP 22 2011

Metals (Continued)

Prep Batch: 212678 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-1	BSA-MW-4D-0811	Total Recoverable	Water	3005A	
680-71493-2	BSA-MW-4D-F(0.2)-0811	Dissolved	Water	3005A	
680-71493-3	CPA-MW-4D-0811	Total Recoverable	Water	3005A	
680-71493-4	CPA-MW-4D-F(0.2)-0811	Dissolved	Water	3005A	
680-71493-5	BSA-MW-5D-0811	Total Recoverable	Water	3005A	
680-71493-6	BSA-MW-5D-F(0.2)-0811	Dissolved	Water	3005A	
LCS 680-212678/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-212678/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 213761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total Recoverable	Water	6010B	212678
680-71407-1 MS	BSA-MW-1S-0811	Total Recoverable	Water	6010B	212678
680-71407-1 MSD	BSA-MW-1S-0811	Total Recoverable	Water	6010B	212678
680-71407-2	BSA-MW-1S-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71407-3	CPA-MW-2D-0811	Total Recoverable	Water	6010B	212678
680-71407-4	CPA-MW-2D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71407-6	CPA-MW-1D-0811	Total Recoverable	Water	6010B	212678
680-71407-7	CPA-MW-1D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71445-1	BSA-MW-2D-0811	Total Recoverable	Water	6010B	212678
680-71445-2	BSA-MW-2D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71445-3	CPA-MW-3D-0811	Total Recoverable	Water	6010B	212678
680-71445-4	CPA-MW-3D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71445-5	CPA-MW-5D-0811	Total Recoverable	Water	6010B	212678
680-71445-6	CPA-MW-5D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71445-7	BSA-MW-3D-0811	Total Recoverable	Water	6010B	212678
680-71445-8	BSA-MW-3D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71493-1	BSA-MW-4D-0811	Total Recoverable	Water	6010B	212678
680-71493-2	BSA-MW-4D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71493-3	CPA-MW-4D-0811	Total Recoverable	Water	6010B	212678
680-71493-4	CPA-MW-4D-F(0.2)-0811	Dissolved	Water	6010B	212678
680-71493-5	BSA-MW-5D-0811	Total Recoverable	Water	6010B	212678
680-71493-6	BSA-MW-5D-F(0.2)-0811	Dissolved	Water	6010B	212678
LCS 680-212678/2-A	Lab Control Sample	Total Recoverable	Water	6010B	212678
MB 680-212678/1-A	Method Blank	Total Recoverable	Water	6010B	212678

General Chemistry

Analysis Batch: 212043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	310.1	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	310.1	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	310.1	
LCS 680-212043/3	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-212043/12	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-212043/2	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 212081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	353.2	
680-71407-1 MS	BSA-MW-1S-0811	Total/NA	Water	353.2	
680-71407-1 MSD	BSA-MW-1S-0811	Total/NA	Water	353.2	

SEP 22 2011

General Chemistry (Continued)

Analysis Batch: 212081 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	353.2	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	353.2	
LCS 680-212081/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-212081/14	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 212187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	310.1	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	310.1	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	310.1	
680-71445-5 DU	CPA-MW-5D-0811	Total/NA	Water	310.1	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	310.1	
LCS 680-212187/3	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-212187/28	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-212187/2	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 212333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	353.2	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	353.2	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	353.2	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	353.2	
LCS 680-212333/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-212333/14	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 212334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	353.2	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	353.2	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	353.2	
LCS 680-212334/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-212334/14	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 212405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	310.1	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	310.1	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	310.1	
LCS 680-212405/3	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-212405/11	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-212405/2	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 212706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-2	BSA-MW-1S-F(0.2)-0811	Dissolved	Water	415.1	
680-71407-4	CPA-MW-2D-F(0.2)-0811	Dissolved	Water	415.1	
680-71407-7	CPA-MW-1D-F(0.2)-0811	Dissolved	Water	415.1	
680-71445-2	BSA-MW-2D-F(0.2)-0811	Dissolved	Water	415.1	
680-71445-2 DU	BSA-MW-2D-F(0.2)-0811	Dissolved	Water	415.1	
680-71445-4	CPA-MW-3D-F(0.2)-0811	Dissolved	Water	415.1	
680-71445-6	CPA-MW-5D-F(0.2)-0811	Dissolved	Water	415.1	
680-71445-8	BSA-MW-3D-F(0.2)-0811	Dissolved	Water	415.1	

SEP 22 2011

General Chemistry (Continued)

Analysis Batch: 212706 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71493-2	BSA-MW-4D-F(0.2)-0811	Dissolved	Water	415.1	
680-71493-4	CPA-MW-4D-F(0.2)-0811	Dissolved	Water	415.1	
680-71493-6	BSA-MW-5D-F(0.2)-0811	Dissolved	Water	415.1	

Analysis Batch: 212944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	325.2	
680-71407-1 MS	BSA-MW-1S-0811	Total/NA	Water	325.2	
680-71407-1 MSD	BSA-MW-1S-0811	Total/NA	Water	325.2	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	325.2	
680-71407-3 DU	CPA-MW-2D-0811	Total/NA	Water	325.2	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	325.2	
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	325.2	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	325.2	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	325.2	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	325.2	
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	325.2	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	325.2	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	325.2	
LCS 680-212944/6	Lab Control Sample	Total/NA	Water	325.2	
MB 680-212944/1	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 212968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	375.4	
680-71407-1 MS	BSA-MW-1S-0811	Total/NA	Water	375.4	
680-71407-1 MSD	BSA-MW-1S-0811	Total/NA	Water	375.4	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	375.4	
680-71407-3 DU	CPA-MW-2D-0811	Total/NA	Water	375.4	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	375.4	
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	375.4	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	375.4	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	375.4	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	375.4	
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	375.4	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	375.4	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	375.4	
LCS 680-212968/2	Lab Control Sample	Total/NA	Water	375.4	
MB 680-212968/1	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 212990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71445-1	BSA-MW-2D-0811	Total/NA	Water	415.1	
680-71445-3	CPA-MW-3D-0811	Total/NA	Water	415.1	
680-71445-5	CPA-MW-5D-0811	Total/NA	Water	415.1	
680-71445-7	BSA-MW-3D-0811	Total/NA	Water	415.1	
LCS 680-212990/4	Lab Control Sample	Total/NA	Water	415.1	
MB 680-212990/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 213429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1	BSA-MW-1S-0811	Total/NA	Water	415.1	

SEP 22 2011

General Chemistry (Continued)

Analysis Batch: 213429 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71407-1 MS	BSA-MW-1S-0811	Total/NA	Water	415.1	
680-71407-1 MSD	BSA-MW-1S-0811	Total/NA	Water	415.1	
680-71407-3	CPA-MW-2D-0811	Total/NA	Water	415.1	
680-71407-6	CPA-MW-1D-0811	Total/NA	Water	415.1	
680-71493-1	BSA-MW-4D-0811	Total/NA	Water	415.1	
680-71493-3	CPA-MW-4D-0811	Total/NA	Water	415.1	
680-71493-5	BSA-MW-5D-0811	Total/NA	Water	415.1	
LCS 680-213429/36	Lab Control Sample	Total/NA	Water	415.1	
MB 680-213429/35	Method Blank	Total/NA	Water	415.1	

SEP 22 2011

Client Sample ID: BSA-MW-1S-0811 — **Lab Sample ID: 680-71407-1**
Date Collected: 08/15/11 10:40 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	212578	08/22/11 16:28	RB	TAL SAV
Total/NA	Prep	3520C			500.4 mL	0.5 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212664	08/23/11 16:56	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 18:43	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212629	08/22/11 18:43	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 05:48	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212043	08/16/11 15:36	TR	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212081	08/16/11 17:31	JR	TAL SAV
Total/NA	Analysis	325.2		5	2 mL	2 mL	212944	08/25/11 15:35	JR	TAL SAV
Total/NA	Analysis	375.4		10	2 mL	2 mL	212968	08/25/11 16:50	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	213429	08/30/11 17:03	TH	TAL SAV

Client Sample ID: BSA-MW-1S-F(0.2)-0811 — **Lab Sample ID: 680-71407-2**
Date Collected: 08/15/11 10:40 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 06:15	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: CPA-MW-2D-0811 — **Lab Sample ID: 680-71407-3**
Date Collected: 08/15/11 13:55 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	5 mL	5 mL	212578	08/22/11 16:57	RB	TAL SAV
Total/NA	Prep	3520C			919.2 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212664	08/23/11 17:22	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 18:56	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212629	08/22/11 18:56	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 06:20	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212043	08/16/11 15:45	TR	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212081	08/16/11 17:34	JR	TAL SAV
Total/NA	Analysis	325.2		1	2 mL	2 mL	212944	08/25/11 15:32	JR	TAL SAV
Total/NA	Analysis	375.4		1	2 mL	2 mL	212968	08/25/11 16:05	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	213429	08/30/11 17:44	TH	TAL SAV

SEP 22 2011

Client Sample ID: CPA-MW-2D-F(0.2)-0811 — **Lab Sample ID: 680-71407-4**
Date Collected: 08/15/11 13:55 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 06:25	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: CPA-MW-2D--0811-AD — **Lab Sample ID: 680-71407-5**
Date Collected: 08/15/11 13:55 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	5 mL	5 mL	212817	08/23/11 18:30	RB	TAL SAV
Total/NA	Prep	3520C			1022.2 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212664	08/23/11 17:49	CRH	TAL SAV

Client Sample ID: CPA-MW-1D-0811 — **Lab Sample ID: 680-71407-6**
Date Collected: 08/15/11 15:35 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	5 mL	5 mL	212578	08/22/11 17:55	RB	TAL SAV
Total/NA	Prep	3520C			1044.1 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		5			212664	08/23/11 18:16	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 19:09	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212629	08/22/11 19:09	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 06:41	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212043	08/16/11 15:58	TR	TAL SAV
Total/NA	Analysis	353.2		10	2 mL	2 mL	212081	08/16/11 17:38	JR	TAL SAV
Total/NA	Analysis	325.2		2	2 mL	2 mL	212944	08/25/11 15:38	JR	TAL SAV
Total/NA	Analysis	375.4		1	2 mL	2 mL	212968	08/25/11 16:06	JR	TAL SAV
Total/NA	Analysis	415.1		10	25 mL	25 mL	213429	08/30/11 17:58	TH	TAL SAV

Client Sample ID: CPA-MW-1D-F(0.2)-0811 — **Lab Sample ID: 680-71407-7**
Date Collected: 08/15/11 15:35 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 06:46	BCB	TAL SAV
Dissolved	Analysis	415.1		25			212706	08/23/11 08:18	TH	TAL SAV

SEP 22 2011

Client Sample ID: TB-1 — **Lab Sample ID: 680-71407-8**
Date Collected: 08/15/11 00:00 — **Matrix: Water**
Date Received: 08/16/11 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	212580	08/22/11 13:50	RB	TAL SAV

Client Sample ID: BSA-MW-2D-0811 — **Lab Sample ID: 680-71445-1**
Date Collected: 08/16/11 09:20 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	212984	08/25/11 17:15	RB	TAL SAV
Total/NA	Prep	3520C			1048.1 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212469	08/22/11 15:57	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 17:52	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212629	08/22/11 17:52	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 06:51	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212187	08/17/11 17:40	TR	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212333	08/17/11 15:04	JR	TAL SAV
Total/NA	Analysis	325.2		2	2 mL	2 mL	212944	08/25/11 15:38	JR	TAL SAV
Total/NA	Analysis	375.4		1	2 mL	2 mL	212968	08/25/11 16:06	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	212990	08/25/11 11:17	TH	TAL SAV

Client Sample ID: BSA-MW-2D-F(0.2)-0811 — **Lab Sample ID: 680-71445-2**
Date Collected: 08/16/11 09:20 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 06:56	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: CPA-MW-3D-0811 — **Lab Sample ID: 680-71445-3**
Date Collected: 08/16/11 10:50 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	212984	08/25/11 17:44	RB	TAL SAV
Total/NA	Prep	3520C			1051.6 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212469	08/22/11 16:25	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 18:05	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212629	08/22/11 18:05	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 07:02	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212187	08/17/11 17:48	TR	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212333	08/17/11 15:07	JR	TAL SAV

Client Sample ID: CPA-MW-3D-0811 — **Lab Sample ID: 680-71445-3**
Date Collected: 08/16/11 10:50 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	325.2		2	2 mL	2 mL	212944	08/25/11 15:38	JR	TAL SAV
Total/NA	Analysis	375.4		1	2 mL	2 mL	212968	08/25/11 16:07	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	212990	08/25/11 11:34	TH	TAL SAV

Client Sample ID: CPA-MW-3D-F(0.2)-0811 — **Lab Sample ID: 680-71445-4**
Date Collected: 08/16/11 10:50 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 07:07	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: CPA-MW-5D-0811 — **Lab Sample ID: 680-71445-5**
Date Collected: 08/16/11 13:05 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	212984	08/25/11 18:13	RB	TAL SAV
Total/NA	Prep	3520C			1049.8 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212469	08/22/11 16:53	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 18:17	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 07:12	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212187	08/17/11 17:56	TR	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212333	08/17/11 15:09	JR	TAL SAV
Total/NA	Analysis	325.2		5	2 mL	2 mL	212944	08/25/11 15:38	JR	TAL SAV
Total/NA	Analysis	375.4		50	2 mL	2 mL	212968	08/25/11 16:49	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	212990	08/25/11 11:53	TH	TAL SAV

Client Sample ID: CPA-MW-5D-F(0.2)-0811 — **Lab Sample ID: 680-71445-6**
Date Collected: 08/16/11 13:05 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:14	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 07:17	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

SEP 22 2011

Client Sample ID: BSA-MW-3D-0811 — **Lab Sample ID: 680-71445-7**
Date Collected: 08/16/11 14:55 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	212983	08/25/11 17:58	RB	TAL SAV
Total/NA	Prep	3520C			1044.1 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212469	08/22/11 17:22	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 18:30	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 07:22	BCB	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212187	08/17/11 18:19	TR	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212333	08/17/11 15:10	JR	TAL SAV
Total/NA	Analysis	325.2		1	2 mL	2 mL	212944	08/25/11 15:32	JR	TAL SAV
Total/NA	Analysis	375.4		10	2 mL	2 mL	212968	08/25/11 16:49	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	212990	08/25/11 12:07	TH	TAL SAV

Client Sample ID: BSA-MW-3D-F(0.2)-0811 — **Lab Sample ID: 680-71445-8**
Date Collected: 08/16/11 14:55 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 07:28	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: BSA-MW-3D-0811-EB — **Lab Sample ID: 680-71445-9**
Date Collected: 08/16/11 16:05 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	213243	08/26/11 18:33	RB	TAL SAV
Total/NA	Prep	3520C			1028.4 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212469	08/22/11 17:50	CRH	TAL SAV

Client Sample ID: TB-2 — **Lab Sample ID: 680-71445-10**
Date Collected: 08/16/11 00:00 — **Matrix: Water**
Date Received: 08/17/11 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	213243	08/26/11 17:06	RB	TAL SAV

Client Sample ID: BSA-MW-4D-0811 — **Lab Sample ID: 680-71493-1**
Date Collected: 08/17/11 09:50 — **Matrix: Water**
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	213206	08/28/11 17:07	AJMC	TAL SAV

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: BSA-MW-4D-0811

Lab Sample ID: 680-71493-1

Date Collected: 08/17/11 09:50
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1047.0 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212664	08/23/11 18:43	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 19:21	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 07:43	BCB	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212334	08/18/11 15:44	JR	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212405	08/18/11 20:45	TR	TAL SAV
Total/NA	Analysis	325.2		2	2 mL	2 mL	212944	08/25/11 15:38	JR	TAL SAV
Total/NA	Analysis	375.4		5	2 mL	2 mL	212968	08/25/11 16:44	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	213429	08/30/11 18:13	TH	TAL SAV

Client Sample ID: BSA-MW-4D-F(0.2)-0811

Lab Sample ID: 680-71493-2

Date Collected: 08/17/11 09:50
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 07:49	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: CPA-MW-4D-0811

Lab Sample ID: 680-71493-3

Date Collected: 08/17/11 11:05
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	213379	08/30/11 14:31	AJMC	TAL SAV
Total/NA	Prep	3520C			1046.9 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		2			212664	08/23/11 19:09	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 19:34	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212629	08/22/11 19:34	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 07:54	BCB	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212334	08/18/11 15:45	JR	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212405	08/18/11 20:57	TR	TAL SAV
Total/NA	Analysis	325.2		5	2 mL	2 mL	212944	08/25/11 15:44	JR	TAL SAV
Total/NA	Analysis	375.4		1	2 mL	2 mL	212968	08/25/11 16:17	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	213429	08/30/11 18:29	TH	TAL SAV

SEP 22 2011

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Client Sample ID: CPA-MW-4D-F(0.2)-0811

Lab Sample ID: 680-71493-4

Date Collected: 08/17/11 11:05
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 07:59	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: BSA-MW-5D-0811

Lab Sample ID: 680-71493-5

Date Collected: 08/17/11 13:10
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	213379	08/30/11 15:36	AJMC	TAL SAV
Total/NA	Prep	3520C			1054.5 mL	1 mL	212318	08/19/11 14:58	RBS	TAL SAV
Total/NA	Analysis	8270C		1			212664	08/23/11 19:36	CRH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	212627	08/22/11 19:47	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			213761	09/02/11 08:04	BCB	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	212334	08/18/11 15:46	JR	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	212405	08/18/11 21:07	TR	TAL SAV
Total/NA	Analysis	325.2		5	2 mL	2 mL	212944	08/25/11 15:44	JR	TAL SAV
Total/NA	Analysis	375.4		20	2 mL	2 mL	212968	08/25/11 16:52	JR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	213429	08/30/11 18:46	TH	TAL SAV

Client Sample ID: BSA-MW-5D-F(0.2)-0811

Lab Sample ID: 680-71493-6

Date Collected: 08/17/11 13:10
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	212678	08/23/11 16:16	RAM	TAL SAV
Dissolved	Analysis	6010B		1			213761	09/02/11 08:10	BCB	TAL SAV
Dissolved	Analysis	415.1		1			212706	08/23/11 08:18	TH	TAL SAV

Client Sample ID: TB-3

Lab Sample ID: 680-71493-7

Date Collected: 08/17/11 00:00
Matrix: Water
Date Received: 08/18/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	213206	08/28/11 14:54	AJMC	TAL SAV

Laboratory References:
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

SEP 22 2011

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/15/11	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier:	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 21562682.00001
St. Louis, MO 63110	Calendar (C) or Work Days (W) C			
(314) 429-0100 Phone	TAT if different from Below			SDG No.
(314) 429-0462 FAX	☒ 2 weeks			
Project Name: 3Q11 LTM GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
BSA-MW-15-0811	8/15/11	1040	G	Water	14		3	2	1	1	1	3	2	1			*SVOCs per semi-annual list
BSA-MW-15-F(0.2)-0811	8/15/11	1040	G	W	2	X									1	1	
CPA-MW-20-0811	8/15/11	1355	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-20-F(0.2)-0811	8/15/11	1355	G	W	2	X									1	1	
CPA-MW-20-0811-AD	8/15/11	1355	G	W	5		3	2									
CPA-MW-10-0811	8/15/11	1535	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-10-F(0.2)-0811	8/15/11	1535	G	W	2	X									1	1	
TB-1	8/15/11	0000	—	W	2		2										
							2	1	4	1	1	1	3,1	2	4	2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: **Level 4 Data Package**

TEMP 0.8°C, 0.4°C

680-71407

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	URS	8/15/11		TA	8/15/11 1745
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TA	8/15/11 1805			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TAS	08/16/11 09:25

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/16/11	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier:	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 21562682.00001
St. Louis, MO 63110	Calendar (C) or Work Days (W) C			SDG No.
(314) 429-0100 Phone	TAT if different from Below			
(314) 429-0462 FAX	[X] 2 weeks			
Project Name: 3Q11 LTM GW Sampling	[ ] 1 week			
Site: Solutia WG Krummrich Facility	[ ] 2 days			
PO# 21562682	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
BSA-MW-2D-0811	8/16/11	0920	G	Water	14		3	2	1	1	1	3	2	1			*SVOCs per semi-annual list
BSA-MW-2D-F(0.2)-0811	8/16/11	0920	G	W	2	X									1	1	
CPA-MW-3D-0811	8/16/11	1050	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-3D-F(0.2)-0811	8/16/11	1050	G	W	2	X									1	1	
CPA-MW-5D-0811	8/16/11	1305	G	W	14		3	2	1	1	1	3	2	1			
CPA-MW-5D-F(0.2)-0811	8/16/11	1305	G	W	2	X									1	1	
CPA-MW-5D-0811-MS	8/16/11	1305	G	W	5		3	2									
CPA-MW-5D-0811-MSD	8/16/11	1305	G	W	5		3	2									
BSA-MW-3D-0811	8/16/11	1455	G	W	14		3	2	1	1	1	3	2	1			
BSA-MW-3D-F(0.2)-0811	8/16/11	1455	G	W	2	X									1	1	
BSA-MW-3D-0811-EB	8/16/11	1605	G	W	5		3	2									
TB-2	8/16/11	0000	—	W	2		2										
							2	1	4	1	1	1	3,1	2	4	2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant Poison B [ ] Unknown [ ]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [■] Disposal By Lab [ ] Archive For _____ Months

Special Instructions/QC Requirements & Comments: Level 4 Data Package

TEMP 3.8°C, 0.9°C, 1.0°C

680-71445

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	URS	8/16/11	[signature]	TA	8/16/11 1705
Relinquished by: [signature]	Company: TA	Date/Time: 8/16/11 1730	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: Frances Swafford	Company: TAS	Date/Time: 08/17/11 09:19

SEP 29 2011

Page 72 of 77

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date:	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier:	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 21562682.00001
St. Louis, MO 63110	Calendar (C) or Work Days (W) C			SDG No.
(314) 429-0100 Phone	TAT if different from Below			
(314) 429-0462 FAX	☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			
Project Name: 3Q11 LTM GW Sampling				
Site: Solutia WG Krummrich Facility				
PO# 21562682				

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
BSA-MW-40-0811	8/17/11	0950	G	Water	14		3	2	1	1	1	3	2	1			*SVOCs per semi-annual list
BSA-MW-40-F(0.2)-0811	8/17/11	0950	6	W	2	X									1	1	
CPA-MW-40-0811	8/17/11	1105	6	W	14		3	2	1	1	1	3	2	1			
CPA-MW-40-F(0.2)-0811	8/17/11	1105	6	W	2	X									1	1	
BSA-MW-50-0811	8/17/11	1310	6	W	14		3	2	1	1	1	3	2	1			
BSA-MW-50-F(0.2)-0811	8/17/11	1310	6	W	2	X	3	2	1	1	1	3	2	1	1	1	
TB-3	8/17/11	0000	—	W	2		2										
							2	1	4	1	1	1	3,1	2	4	2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: Level 4 Data Package

2.0/3.0°C
680-71493

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	URS	8/17/11 1620		TA	8/17/11 1630
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TA	8/17/11 1805			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA SAV	8/18/11 0937

SEP 22 2011

13

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-71407-1
SDG Number: KPS065

Login Number: 71407
List Number: 1
Creator: Swafford, Frances

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	Rec'd 2 coolers on ice.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8 and 0.4 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	rec'd one lt broken for -BSA-MW-1S.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	Insufficient volume received for MS/MSD.
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

SEP 22 2011

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-71407-1
SDG Number: KPS065

Login Number: 71445
List Number: 1
Creator: Swafford, Frances

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	3 coolers rec'd on ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0, 0.9, 1.0 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

SEP 22 2011

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-71407-1
SDG Number: KPS065

Login Number: 71493
List Number: 1
Creator: Conner, Keaton

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	2 coolers rec'd on ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0 and 3.0 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	pH >2 A6/B6/H1/H2/H3/H4/H5
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

SEP 22 2011

Certification Summary

Client: Solutia Inc.
Project/Site: WGK LTM - 3Q11 - AUG 2011

TestAmerica Job ID: 680-71407-1
SDG: KPS065

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas	Arkansas DOH	6	N/A
TestAmerica Savannah	Arkansas	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Delaware	State Program	3	N/A
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	Georgia	Georgia EPD	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kentucky	Kentucky UST	4	18
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina	North Carolina DENR	4	269
TestAmerica Savannah	North Carolina	North Carolina PHL	4	13701
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	USDA		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	NELAC Secondary AB	3	460161
TestAmerica Savannah	Virginia	State Program	3	302
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	West Virginia DEP	3	94
TestAmerica Savannah	West Virginia	West Virginia DHHR (DW)	3	9950C
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

SEP 22 2011

TestAmerica Savannah

Appendix E

Microbial Insights Data Package

2340 Stock Creek Blvd.
Rockford TN 37853-3044
Phone: (865) 573-8188
Fax: (865) 573-8133
Email: info@microbe.com

Client: Dave Palmer
URS Corp
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

Phone: (314) 743-4154

Fax: (314) 429-0462

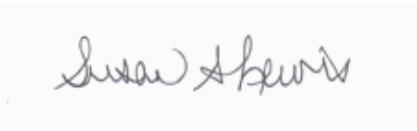
Identifier: 040IH **Date Rec:** 08/16/2011 **Report Date:** 08/31/2011

Client Project #: 21562682.00001 **Client Project Name:** Solutia WG Krummrich Long Term Monit

Purchase Order #:

Analysis Requested: PLFA, Stable Isotope Probing

Reviewed By:



MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: Solutia WG Krummrich Long Term Monitoring

MI Project Number: **040IH**
Date Received: 08/16/2011

Sample Information

Sample Name:	**CPA-MW-1D**	**CPA-MW-2D**	**BSA-MW-1S**	**BSA-MW-2D Benzene**	**BSA-MW-2D**
Sample Date:	08/15/2011	08/15/2011	08/15/2011	08/16/2011	08/16/2011
Sample Matrix:	Std. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap	Adv. Bio-Trap	Std. Bio-Trap
Analyst:	BJ	BJ	BJ	BJ	BJ
Biomass Concentrations					
Total Biomass (cells/bead)	**6.51E+04**	**2.12E+05**	**1.00E+06**	**4.11E+05**	**2.05E+05**
Community Structure (% total PLFA)					
Firmicutes (TerBrSats)	**0.00**	**2.94**	**5.52**	**5.62**	**2.37**
Proteobacteria (Monos)	**58.63**	**36.57**	**7.32**	**72.75**	**72.69**
Anaerobic metal reducers (BrMonos)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
SRB/Actinomycetes (MidBrSats)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
General (Nsats)	**35.77**	**58.69**	**87.18**	**21.01**	**24.28**
Eukaryotes (polyenoics)	**5.62**	**1.80**	**0.00**	**0.63**	**0.67**
Physiological Status (Proteobacteria only)					
Slowed Growth	**0.35**	**0.22**	**0.15**	**0.08**	**0.15**
Decreased Permeability	**0.12**	**0.07**	**0.25**	**0.07**	**0.09**

Legend:
NA = Not Analyzed NS = Not Sampled

MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: Solutia WG Krummrich Long Term Monitoring

MI Project Number: **040IH**
Date Received: 08/16/2011

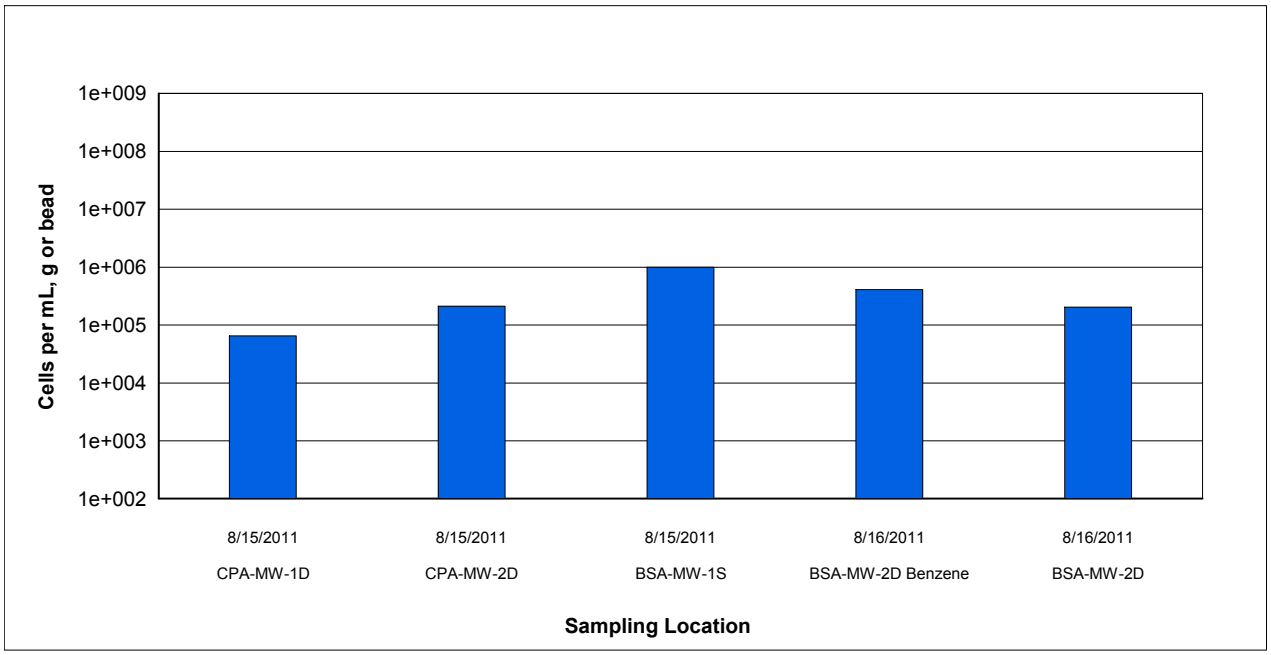


Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

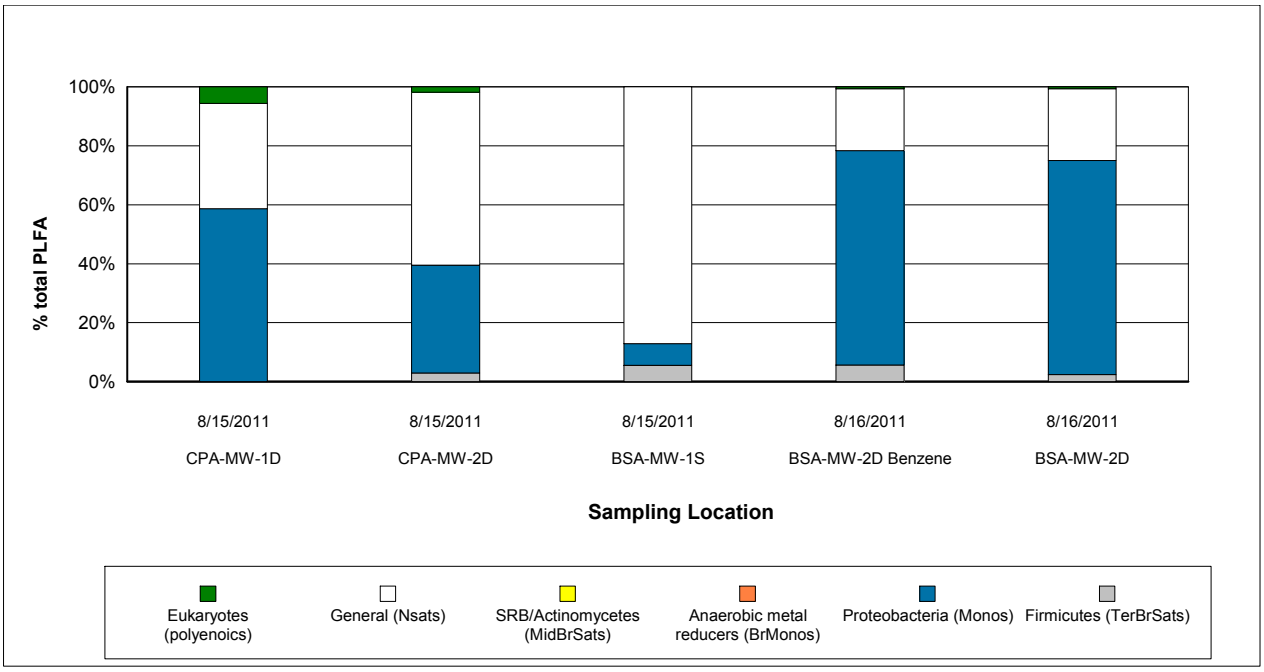


Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: Solutia WG Krummrich Long Term Monitoring

MI Project Number: **040IH**
Date Received: 08/16/2011

Sample Information

Sample Name:	**BSA-MW-3D**	**CPA-MW-3D Chlorobenzene**	**CPA-MW-3D**	**CPA-MW-5D**	**BSA-MW-4D**
Sample Date:	08/16/2011	08/16/2011	08/16/2011	08/16/2011	08/17/2011
Sample Matrix:	Std. Bio-Trap	Adv. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap
Analyst:	BJ	BJ	BJ	BJ	BJ

Biomass Concentrations

Total Biomass (cells/bead)	**4.87E+04**	**4.04E+05**	**3.14E+05**	**1.69E+04**	**1.47E+04**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**0.00**	**2.96**	**1.99**	**0.00**	**0.00**
Proteobacteria (Monos)	**68.55**	**68.81**	**69.45**	**62.36**	**64.86**
Anaerobic metal reducers (BrMonos)	**0.00**	**0.00**	**0.25**	**0.00**	**0.00**
SRB/Actinomycetes (MidBrSats)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
General (Nsats)	**28.91**	**25.22**	**25.77**	**37.64**	**35.14**
Eukaryotes (polyenoics)	**2.54**	**3.01**	**2.53**	**0.00**	**0.00**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.16**	**0.06**	**0.05**	**0.24**	**0.00**
Decreased Permeability	**0.00**	**0.21**	**0.19**	**0.00**	**0.00**

Legend:
NA = Not Analyzed NS = Not Sampled

MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: Solutia WG Krummrich Long Term Monitoring

MI Project Number: **040IH**
Date Received: 08/16/2011

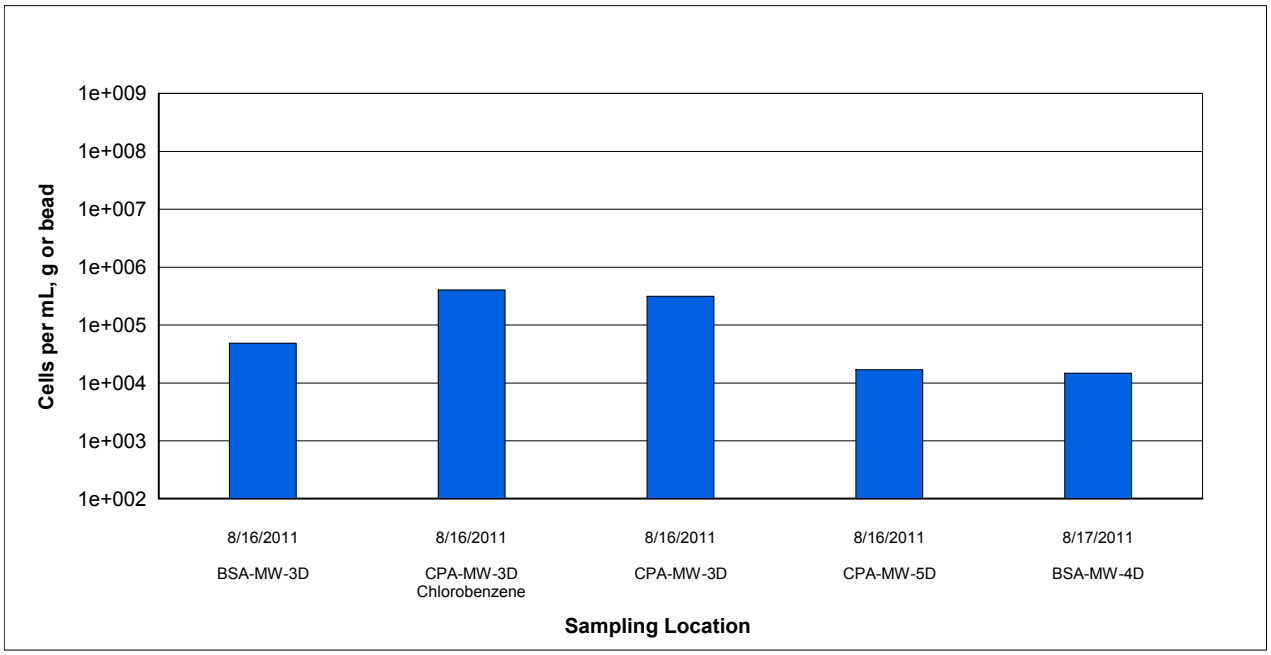


Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

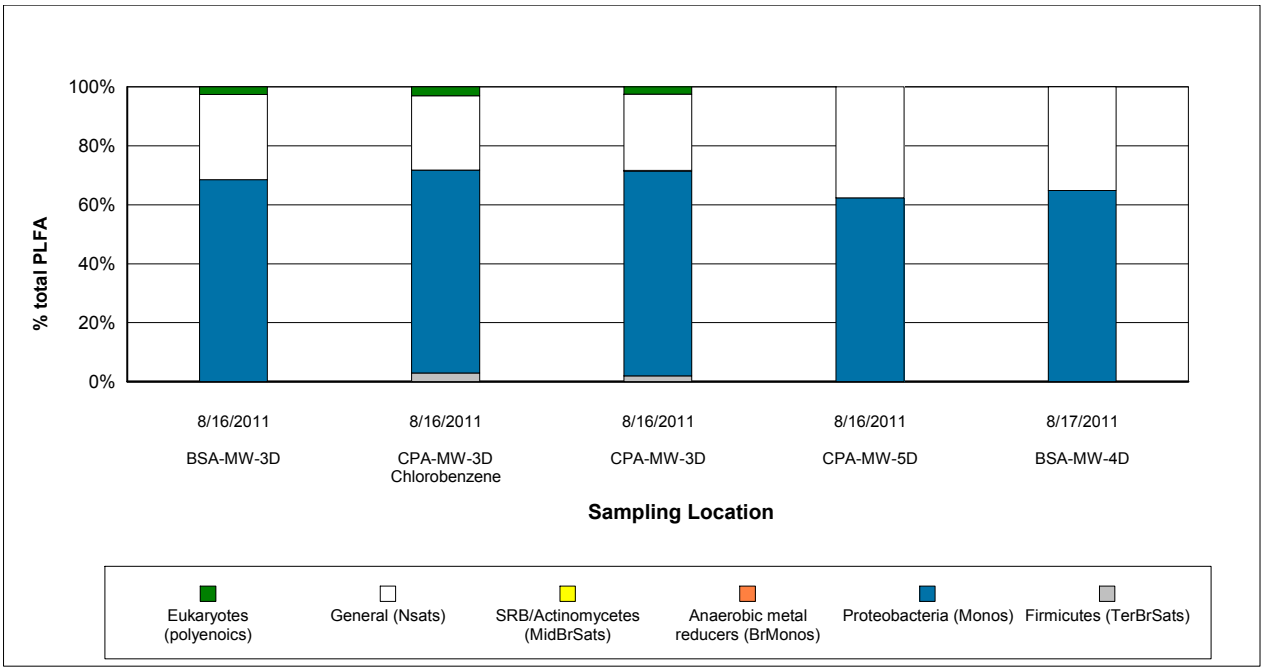


Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: Solutia WG Krummrich Long Term Monitoring

MI Project Number: **040IH**
Date Received: 08/16/2011

Sample Information

Sample Name:	**CPA-MW-4D**	**BSA-MW-5D**
Sample Date:	08/17/2011	08/17/2011
Sample Matrix:	Std. Bio-Trap	Std. Bio-Trap
Analyst:	BJ	BJ

Biomass Concentrations

Total Biomass (cells/bead)	**2.89E+04**	**6.39E+04**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**0.00**	**3.56**
Proteobacteria (Monos)	**74.91**	**69.98**
Anaerobic metal reducers (BrMonos)	**0.00**	**1.40**
SRB/Actinomycetes (MidBrSats)	**0.00**	**0.00**
General (Nsats)	**25.10**	**23.95**
Eukaryotes (polyenoics)	**0.00**	**1.11**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.10**	**0.07**
Decreased Permeability	**0.00**	**0.00**

Legend:
NA = Not Analyzed NS = Not Sampled

MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: Solutia WG Krummrich Long Term Monitoring

MI Project Number: **040IH**
Date Received: 08/16/2011

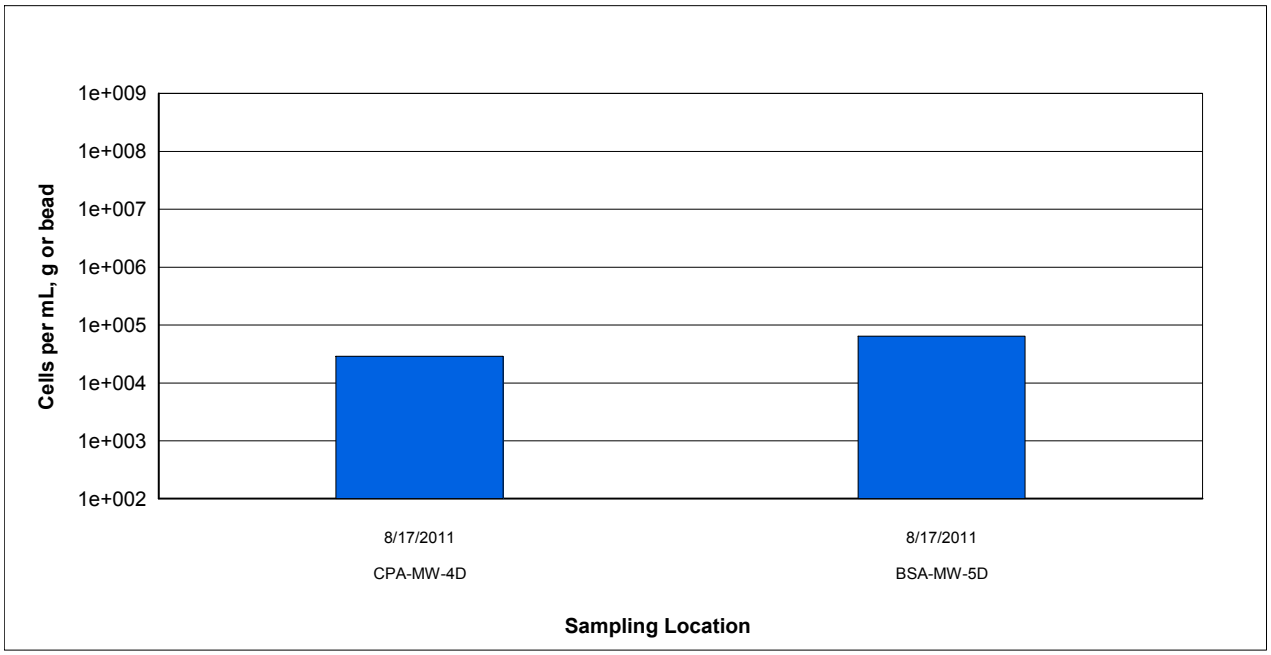


Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

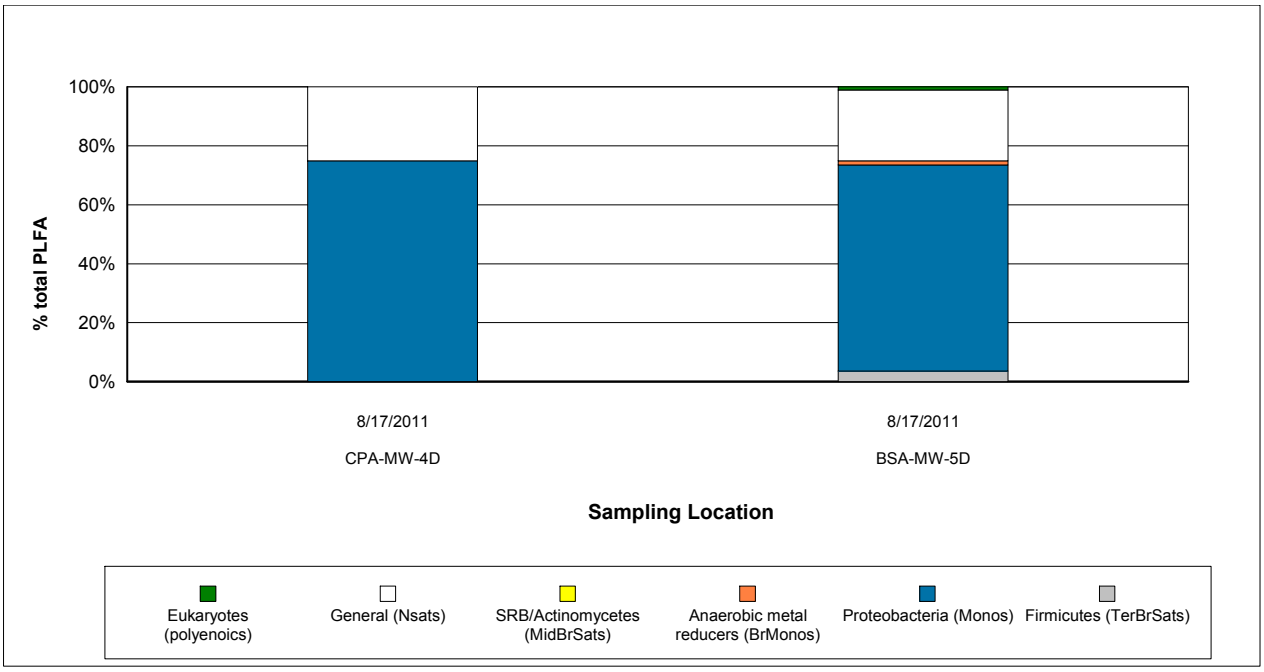


Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

2340 Stock Creek Blvd.
Rockford TN 37853-3044
Phone: (865) 573-8188
Fax: (865) 573-8133
Email: info@microbe.com

Identifier: 040IH **Date Rec:** 08/16/2011 **Report Date:** 08/31/2011

Client Project #: 21562682.00001 **Client Project Name:** Solutia WG Krummrich Long Term Monit

Purchase Order #:

Comments: The total PLFA biomass for samples BSA-MW-2D, CPA-MW-5D and CPA-MW-4D was below the laboratory PQL. The total PLFA biomass for sample BSA-MW-4D was below the laboratory LQL.

2340 Stock Creek Blvd.
Rockford, TN 37853-3044
Phone: 865.573.8188
Fax: 865.573.8133
Web: www.microbe.com

SITE LOGIC Report

Stable Isotope Probing (SIP) Study

Contact: Dave Palmer
Phone: 314-743-4154
Address: URS Corporation – St. Louis MO
1001 Highlands Plaza Drive West
Suite 300
St. Louis, MO 63110
Email: dave_palmer@urscorp.com

MI Identifier: 040IH

Report Date: October 3, 2011

Project: Solutia WG Krummrich Long Term Monitoring

Comments:

Executive Summary

A Stable Isotope Probing (SIP) study was performed to determine whether biodegradation of benzene and chlorobenzene is occurring under existing site conditions. Bio-Trap® samplers baited with ^{13}C labeled benzene or ^{13}C labeled chlorobenzene were deployed in monitoring wells BSA-MW-2D and CPA-MW-3D for 28 days. Following field deployment, the Bio-Traps were recovered to quantify ^{13}C incorporation into biomass and dissolved inorganic carbon (DIC). A complete summary of the results is provided in Table 1.

- Quantification of ^{13}C enriched biomass demonstrated utilization of the ^{13}C benzene and the ^{13}C chlorobenzene. This is conclusive evidence that biodegradation is occurring under the site conditions which were present during the deployment period.
- Little to no mineralization of the ^{13}C compounds occurred during the deployment period.
- There was statistically significant loss of both the ^{13}C benzene and ^{13}C chlorobenzene observed.
- A moderate level (~10^5 cells/bead) of biomass was detected in the both the ^{13}C benzene sampler and the ^{13}C chlorobenzene sampler.

2340 Stock Creek Blvd.
Rockford, TN 37853-3044
Phone: 865.573.8188
Fax: 865.573.8133
www.microbe.com

Overview of Approach

Stable Isotope Probing (SIP)

Stable isotope probing (SIP) is an innovative method to track the environmental fate of a "labeled" contaminant of concern to unambiguously demonstrate biodegradation. Two stable carbon isotopes exist in nature – carbon 12 (^{12}C) which accounts for 99% of carbon and carbon 13 (^{13}C) which is considerably less abundant (~1%). With the SIP method, the Bio-Trap® sampler is baited with a specially synthesized form of the contaminant containing ^{13}C labeled carbon. Since ^{13}C is rare, the labeled compound can be readily differentiated from the contaminants present at the site. Following deployment, the Bio-Trap® is recovered and three approaches are used to conclusively demonstrate biodegradation of the contaminant of concern.

- The loss of the labeled compound provides an estimate of the degradation rate (% loss of ^{13}C).
- Quantification of ^{13}C enriched phospholipid fatty acids (PLFA) indicates incorporation into microbial biomass.
- Quantification of ^{13}C enriched dissolved inorganic carbon (DIC) indicates contaminant mineralization.

Phospholipid Fatty Acids (PLFA): PLFA are a primary component of the membrane of all living cells including bacteria. PLFA decomposes rapidly upon cell death (1, 2), so the total amount of PLFA present in a sample is indicative of the viable biomass. When combined with stable isotope probing (SIP), incorporation of ^{13}C into PLFA is a conclusive indicator of biodegradation.

Some organisms produce "signature" types of PLFA allowing quantification of important microbial functional groups (e.g. iron reducers, sulfate reducers, or fermenters). The relative proportions of the groups of PLFA provide a "fingerprint" of the microbial community. In addition, *Proteobacteria* modify specific PLFA during periods of slow growth or in response to environmental stress providing an index of their health and metabolic activity.

2340 Stock Creek Blvd.
Rockford, TN 37853-3044
Phone: 865.573.8188
Fax: 865.573.8133
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Results

Table 1. Summary of the results obtained from the Bio-Trap® Units. Interpretation guidelines and definitions are found later in the document.

Sample Name	BSA MW 2D Benzene	CPA MW 3D Chlorobenzene
^{13}C Contaminant Loss		
^{13}C Benzene Pre-deployment (µg/bd)	185 ± 12	-----
^{13}C Benzene Post-deployment (µg/bd)	114 ± 9	-----
^{13}C Chlorobenzene Pre-deployment (µg/bd)	-----	83 ± 12
^{13}C Chlorobenzene Post-deployment (µg/bd)	-----	54 ± 11
Biomass & ^{13}C Incorporation		
Total Biomass (Cells/bd)	4.11E+05	4.04E+05
^{13}C Enriched Biomass (Cells/bd)	7.79E+03	3.26E+01
Average PLFA Del (‰)	674	123
Maximum PLFA Del (‰)	2421	123
^{13}C Mineralization		
DIC Del (‰)	-18	-30
% 13C	1.07	1.06
Community Structure (% total PLFA)		
Firmicutes (TerBrSats)	5.6	3.0
Proteobacteria (Monos)	72.8	68.8
Anaerobic metal reducers (BrMonos)	0.0	0.0
Actinomycetes (MidBrSats)	0.0	0.0
General (Nsats)	21.0	25.2
Eukaryotes (Polyenoics)	0.6	3.0
Physiological Status (Proteobacteria only)		
Slowed Growth	0.08	0.06
Decreased Permeability	0.07	0.21

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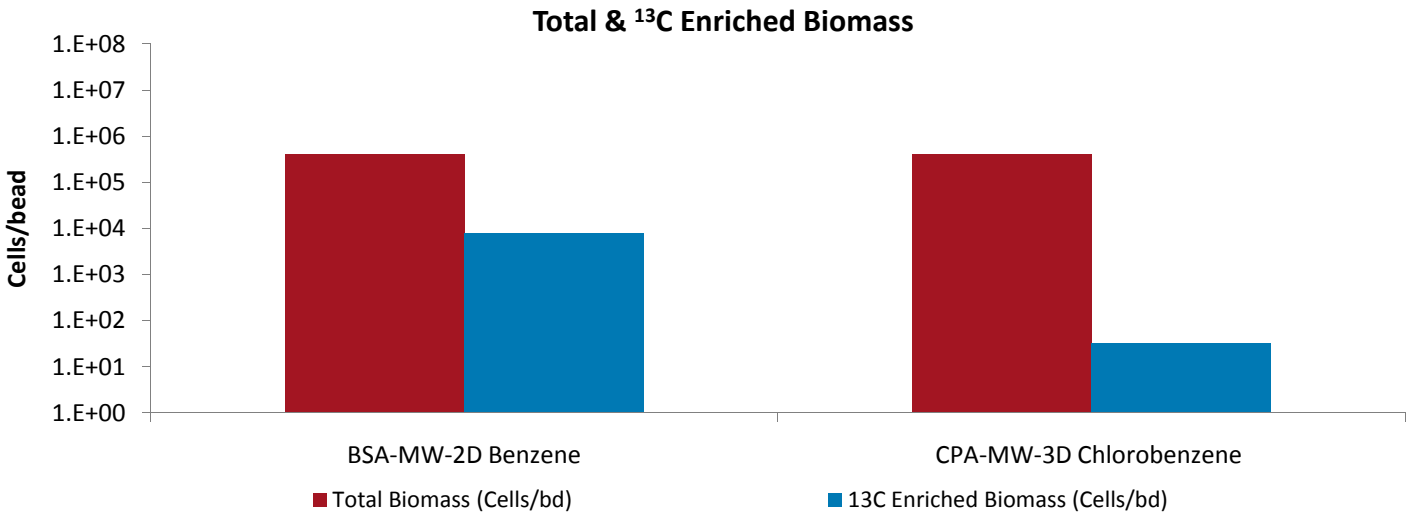

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

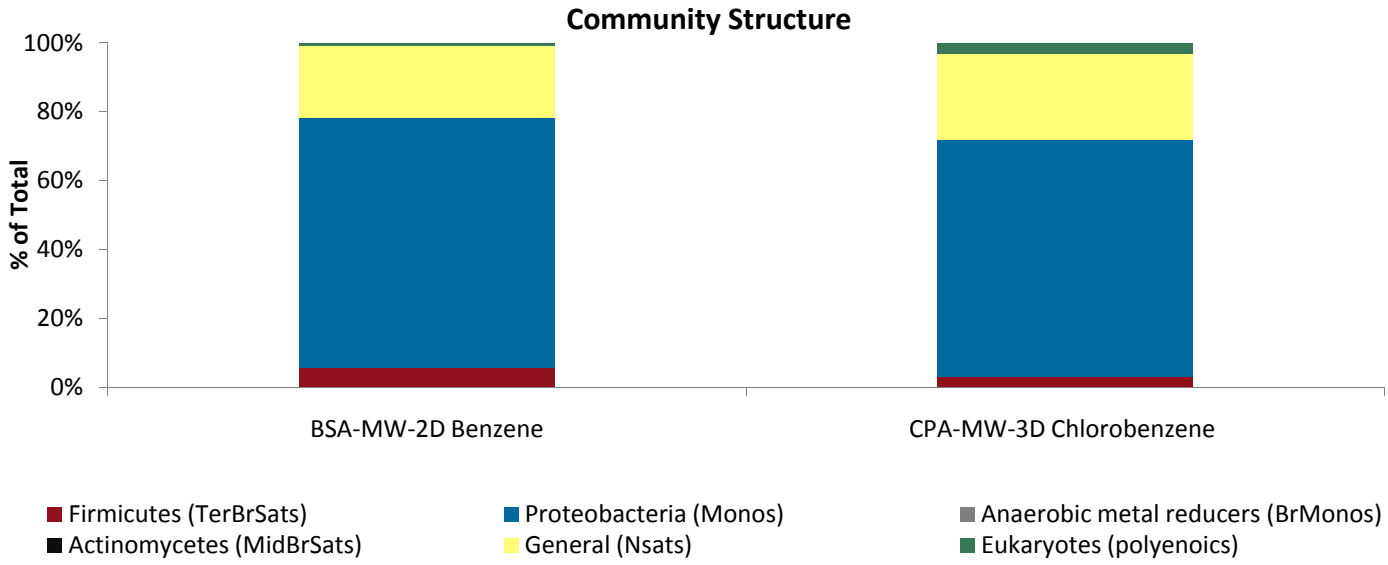

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis. See the table in the interpretation section for detailed descriptions of the structural groups.

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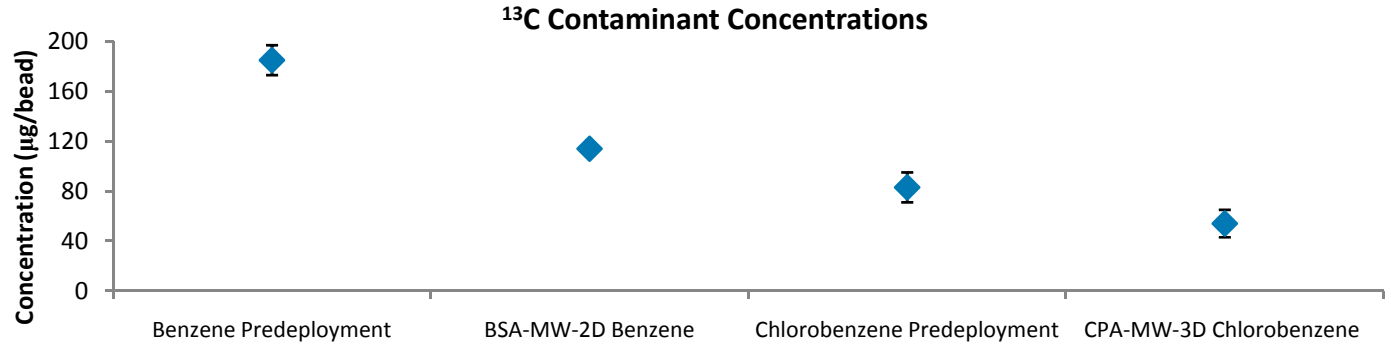

Figure 3. Comparison of Pre-deployment concentrations loaded on Bio-Sep beads to the concentrations detected after incubation.

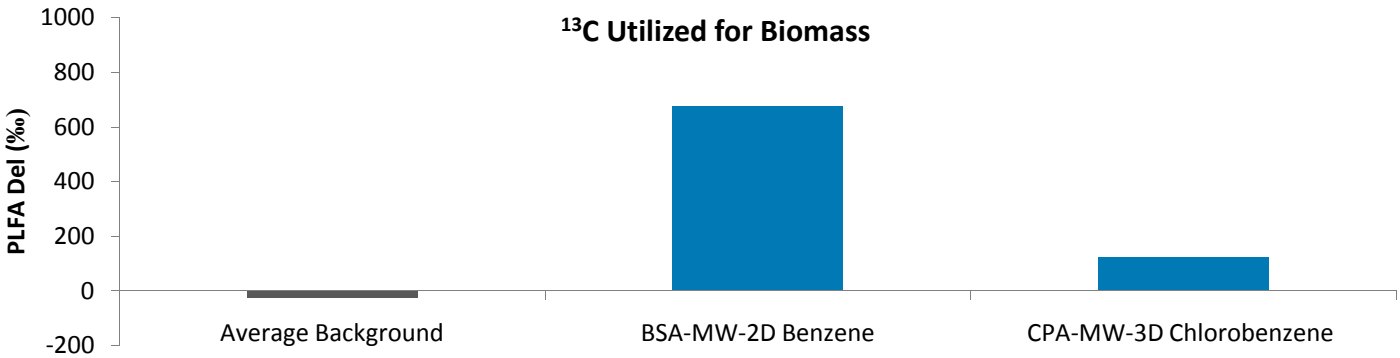

Figure 4. Comparison of the average Del value obtained from PLFA biomarkers from each Bio-Trap® unit to the average background Del observed in samples not exposed to ^{13}C enriched compounds.

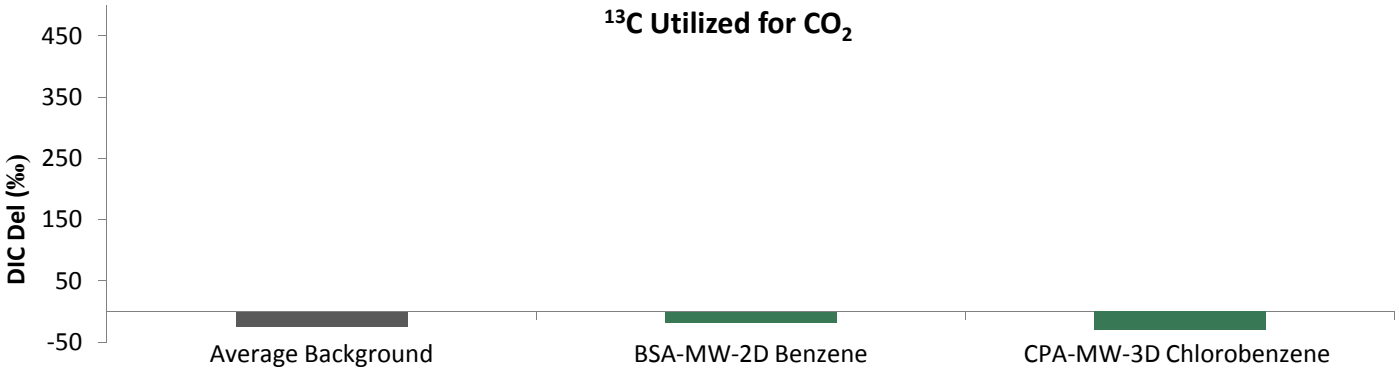

Figure 5. Comparison of the Del value obtained from DIC from each Bio-Trap® unit to the average background Del observed in samples not exposed to ^{13}C enriched compounds.

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Interpretation

Interpretation of the results of the SIP Bio-Trap® study must be performed with due consideration of site conditions, site activities, and the desired treatment mechanism. The following discussion describes interpretation of results in general terms and is meant to serve as a guide.

Contaminant Concentration: Bio-Traps® are baited with a ^{13}C labeled contaminant of concern and a pre-deployment concentration is determined prior to shipping. Following deployment, Bio-Traps® are recovered for analysis including measurement of the concentration of the ^{13}C labeled contaminant remaining. Pre- and post-deployment concentrations are used to calculate percent loss.

Biomass Concentrations: PLFA analysis is one of the most reliable and accurate methods available for the determination of viable (live) biomass. Phospholipids break down rapidly upon cell death, so biomass calculations based on PLFA content do not include "fossil" lipids from dead cells. Total biomass (cells/bead) is calculated from total PLFA using a conversion factor of 20,000 cells/pmole of PLFA. When making comparisons between wells, treatments, or over time, differences of one order of magnitude or more are considered significant.

Total Biomass		
Low	**Moderate**	**High**
10^3 to 10^4 cells	10^5 to 10^6 cells	10^7 to 10^8 cells

For SIP studies, the ^{13}C enriched PLFA is also determined to conclusively demonstrate contaminant biodegradation and quantify incorporation into biomass as a result of the ^{13}C being used for cellular growth. The % ^{13}C incorporation (^{13}C enriched biomass/total biomass) is also provided in the data summary table, but the value must be interpreted carefully especially when comparing wells or treatments. Typically, biodegradation of a contaminant of concern is performed by a small subset of the total microbial community. For Bio-Traps® with large total biomass, the % ^{13}C incorporation value could be low despite significant ^{13}C labeled biomass and loss of the compound. The % ^{13}C incorporation should be viewed in light of total biomass, percent loss, and dissolved inorganic carbon (DIC) results.

^{13}C enrichment data is often reported as a del value. The del value is the difference between the isotopic ratio ($^{13}C/^{12}C$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand, denoted ‰).

R_{std} is the naturally occurring isotopic ratio and is approximately 0.011180 (roughly 1% of naturally occurring carbon is ^{13}C). The isotopic ratio, R_x, of PLFA is typically less than the R_{std} under natural conditions, resulting in a del value between -20 and -30‰. For a SIP Bio-Trap® study, biodegradation and incorporation of the ^{13}C labeled compound into PLFA results in a larger $^{13}C/^{12}C$ ratio (R_x) and thus del values greater than under natural conditions. Typical PLFA del values are provided below.

PLFA Del (‰)		
Low	**Moderate**	**High**
0 to 100	100 to 1,000	>1,000

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Dissolved Inorganic Carbon (DIC): Often, bacteria can utilize the ^{13}C labeled compound as both a carbon and energy source. The ^{13}C portion used as a carbon source for growth can be incorporated into PLFA as discussed above, while the ^{13}C used for energy is oxidized to $^{13}CO_2$ (mineralized).

^{13}C enriched CO_2 data is often reported as a del value as described above for PLFA. Under natural conditions, the R_x of CO_2 is approximately the same as R_{std} (0.01118 or about 1.1% ^{13}C). For an SIP Bio-Trap® study, mineralization of the ^{13}C labeled contaminant of concern would lead to a greater value of R_x (increased $^{13}CO_2$ production) and thus a positive del value. As with PLFA, del values between 0 and 100‰ are considered low, values between 100 and 1,000‰ are considered moderate, and values greater than 1,000‰ are considered high. Thus DIC $\%^{13}C$ are considered low if the value is less than 1.23%, moderate if between 1.23 and 2.24%, and high if greater than 2.24%.

Dissolved Inorganic Carbon (DIC) Del and $\%^{13}C$		
Low	**Moderate**	**High**
0 to 100	100 to 1,000	>1,000
1.11 to 1.23%	1.23 to 2.24%	>2.24%

Community Structure (% total PLFA): Community structure data is presented as a percentage of PLFA structural groups normalized to the total PLFA biomass. The relative proportions of the PLFA structural groups provide a "fingerprint" of the types of microbial groups (e.g. anaerobes, sulfate reducers, etc.) present and therefore offer insight into the dominant metabolic processes occurring at the sample location. Thorough interpretation of the PLFA structural groups depends in part on an understanding of site conditions and the desired microbial biodegradation pathways. For example, an increase in mid chain branched saturated PLFA (MidBrSats), indicative of sulfate reducing bacteria (SRB) and *Actinomycetes*, may be desirable at a site where anaerobic BTEX biodegradation is the treatment mechanism, but would not be desirable for a corrective action promoting aerobic BTEX or MTBE biodegradation. The following table provides a brief summary of each PLFA structural group and its potential relevance to bioremediation.

Table 2. Description of PLFA structural groups.

PLFA Structural Group	General classification	Potential Relevance to Bioremediation Studies
Monoenoic (Monos)	Abundant in Proteobacteria (Gram negative bacteria), typically fast growing, utilize many carbon sources, and adapt quickly to a variety of environments.	Proteobacteria is one of the largest groups of bacteria and represents a wide variety of both aerobes and anaerobes. The majority of Hydrocarbon utilizing bacteria fall within the Proteobacteria
Terminally Branched Saturated (TerBrSats)	Characteristic of Firmicutes (Low G+C Gram-positive bacteria), and also found in Bacteriodes, and some Gram-negative bacteria (especially anaerobes).	Firmicutes are indicative of presence of anaerobic fermenting bacteria (mainly *Clostridia/Bacteriodes*-like), which produce the H_2 necessary for reductive dechlorination
Branched Monoenoic (BrMonos)	Found in the cell membranes of micro-aerophiles and anaerobes, such as sulfate- or iron-reducing bacteria	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Mid-Chain Branched Saturated (MidBrSats)	Common in sulfate reducing bacteria and also Actinobacteria (High G+C Gram-positive bacteria).	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Normal Saturated (Nsats)	Found in all organisms.	High proportions often indicate less diverse populations.
Polyenoic	Found in eukaryotes such as fungi, protozoa, algae, higher plants, and animals.	Eukaryotic scavengers will often rise up and prey on contaminant utilizing bacteria

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Physiological Status (*Proteobacteria*): Some *Proteobacteria* modify specific PLFA as a strategy to adapt to stressful environmental conditions (3, 4). For example, *cis* monounsaturated fatty acids may be modified to cyclopropyl fatty acids during periods of slowed growth or modified to *trans* monounsaturated fatty acids to decrease membrane permeability in response to environmental stress. The ratio of product to substrate fatty acid thus provides an index of their health and metabolic activity. In general, status ratios greater than 0.25 indicate a response to unfavorable environmental conditions.

Glossary

Del: A Del value is the difference between the isotopic ratio ($^{13}C/^{12}C$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand denoted ‰).

$$Del = (R_x - R_{std})/R_{std} \times 1000$$

References

1. White, D.C., W.M. Davis, J.S. Nickels, J.D. King, and R.J. Bobbie. 1979. Determination of the sedimentary microbial biomass by extractable lipid phosphate. Oecologia 40:51-62.
2. White, D.C. and D.B. Ringelberg. 1995. Utility of signature lipid biomarker analysis in determining in situ viable biomass. In P.S. Amy and D.L. Halderman (eds.) The microbiology of the terrestrial surface. CRC Press, Boca Raton.
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4. Tsitko, I.V., G. M. Zaitsev, A. G. Lobanok, and M.S. Salkinoja-Salonen. 1999. Effect of aromatic compounds on cellular fatty acid composition of *Rhodococcus opacus*. Applied and Environmental Microbiology. 65:853-855.

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Name: Dave Palmer
Company: URS Corporation
Address: 1001 Highlands Plaza Dr. W, Ste 300
St. Louis, MO 63110
email: Dave.Palmer@urscorp.com
Phone: (314) 374-9032
Fax: (314) 429-0462

Project Manager: Dave Palmer
Project Name: Solutia WG - Krummrich - Long Term Monitoring
Project No.:

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Sample Information											CENSUS: Please select the target organism/gene																							
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	VFA	M/E/E	DGGE+3ID	DGGE+5ID		qDHC (Dehalococcoides)	DHC Functional genes	qDHB (Dehalobacter)	qDSM (Desulfuromonas)	qDSB (Desulfitobacterium)	qEBAC (Total)	qDSR (SRBs only)	qSRB/iRB	qMGN (methanogens)	qMOB (methanotrophs)	qDNF (Denitrifying)	qAOB (ammonia oxidizing)	qPMI (MTBE aerobic)	qTOD (Intial PAHs aerobic)	qCAT (Intermediate PAHs aerobic)	qBSS (Toluen/Xylene Anaerobic)	qNAH (Napthalene aerobic)	add. qPCR:	add. qPCR:	add. qPCR:	RNA (Expression Option)*	Other:	Other:	Other:	Other:
040IH1	CPA-MW-1D	8/15/11	1450	water	X																													
2	CPA-MW-2D	↓	1502	↓	X																													
3	BAS-MW-15	↓	0940	↓	X																													

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Company: URS Corporation
Address: 1001 Highlands Plaza Dr. W
St. Louis, MO 63110

email: Dave_Palmer@urscorp.com
Phone: (314) 429-0100
Fax: (314) 429-0462

Project Manager: Dave Palmer
Project Name: Solutia WGK LTM 3Q11
Project No.: 21562682

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040IH 4,5	~~BSA-MW-1S~~ BSA-MW-20	8/16/11	0835	Water	X																											X			
7,8	CPA-MW-3D	8/16/11	1010	Water	X																												X		
9	CPA-MW-5D	8/16/11	1210	Water	X																														
6	BSA-MW-3D	8/16/11	1405	Water	X																														

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MI ID: D40IH

	Sample name	Date	Comments
1			
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4	BSA-MW-2D Benzene SIP	8/16	
5	BSA-MW-2D Standard Trap		
6	BSA-MW-3D Standard Trap		
7	CPA-MW-3D Chlorobenzene SIP		
8	CPA-MW-3D Standard Trap		
9	CPA-MW-5D Standard Trap	—	
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Company: URS Corp
Address: 1001 Highlands Plaza Dr W
St. Louis, MO 63110

email: dave_palmer@urscorp.com
Phone: (314) 429-0100
Fax: (314) 429-0462

Project Manager: Dave Palmer
Project Name: Solutia WGK LTM 3Q11
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Sample Information										CENSUS: Please select the target organism/gene																							
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040IH 10	BSA-MW-4D	8/17/11	0905	Water	X																											
11	CPA-MW-4D	8/17/11	1025	Water	X																											
12	BSA-MW-5D	8/17/11	1215	Water	X																											

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